```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

Search time 4795 seconds Cottober 1, 2004, 10:03:29; Search time 4795 seconds 10:04:20:445-5 10:03:29; Search time 4795 seconds 10:05-6-445-5 10:0
US-10-626-445-5 1 aggregaggtctaacagtacaccagtcagtatcttcttga table: IDENTITY NUC Gapop 10-0, Gapext 1.0 3470272 seqs, 21671516995 residues mber of hits satisfying chosen parameters: 6940544 DB seq length: 0 BB seq length
table: IDENTITY_NUC Gapop 10.0 , Gapext 1.0 mber of hits satisfying chosen parameters: DB seq length: 2000000000 cessing: Minimum Match 100%
##
mber of hits satisfying chosen parameters: DB seq length: 0 DB seq length: 200000000 Cessing: Minimum Match 10% Maximum Match 10% Listing first 45 summaries : GenEmbl:* 1: 9b ba:* 2: 9b_lns:* 4: 9b_om:* 4: 9b_om:* 5: 9b_lns:* 6: 9b_lns:* 10: 9b_ro:* 11: 9b_sts:* 12: 9b_pn:* 8: 9b_lns:* 11: 9b_sts:* 12: 9b_om:* 13: 9b_ln:* 14: 9b_vi:* 15: em_ba:* 15: em_ba:* 16: em_fun:* 17: em_lns:* 18: em_lns:* 19: em_no:* 21: em_ov:* 22: em_ov:* 23: em_lns:* 24: em_ls:* 25: em_ls:* 26: em_ls:* 27: em_ls:* 28: em_ls:* 29: em_ls:* 29: em_ls:* 20: em_l
DB seq length: 0 DB seq length: 2000000000 Cessing: Minimum Match 100 Listing first 45 1.
cessing: Minimum Match 04 Maximum Match 100 Listing first 45 1.
GenEmbl:* 1: 9b ba:* 2: 9b_ba:* 3: 9b_in:* 4: 9b_om:* 5: 9b_om:* 6: 9b_pat:* 7: 9b_pat:* 10: 9b_pat:* 10: 9b_pat:* 10: 9b_pat:* 11: 9b_pat:* 12: 9b_vi:* 13: 9b_un:* 14: 9b_vi:* 15: 9b_vi:* 16: em_bat:* 17: em_bat:* 18: em_lin:* 19: em_om:* 20: em_om:* 20: em_om:* 21: em_or:* 22: em_pat:* 23: em_pat:* 24: em_pat:* 25: em_lin:* 26: em_vi:* 27: em_pat:* 28: em_lin:* 29: em_lin:* 30: em_lin:* 31: em_ling_lin:* 32: em_lin:* 33: em_ling_lin:* 34: em_ling_lin:* 35: em_ling_lin:* 36: em_ling_lin:* 37: em_ling_lin:* 38: em_ling_lin:* 39: em_ling_lin:* 30: em_lin:* 30: em

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		•				
٠.٥	8	wer atc	Lengt]	DB	Q	scription
	1	١.,	1538		1 60	58859
. •		81.5	59	10	386	9
υ	821.	φ.	34	7	3167	31672
•	.989	ω.	1173	9	12	42850
-'	686.	œ	17	9	9	91860
_	686.	æ	17	9	3911	09119
•	686.	8	17	9	Н	Sequen
~	686.	æ	17	9	4	47 Novel
	686.	В	17	6	35	5356 Homo
ĭ	989	58.4	17	6	44	49
≓	989	ω	17	6	AY008280	08280 Homo
ï	989	58.4	17	0	AY136745	36745 Homo
급	989	α	17	6	HSA298292	AJ298292 Homo sapi
7	989	œ	26	9	AX376577	AX376577 Sequence
ä	989	æ	30	9	AX301229	
ĭ	989	ω	31	9	BD095598	œ
H	989	8	31	σ	AB045370	S OMOH 0
ã	989	æ	68	ø	AX549343	3 Seque
ä	989	8	68	9	AF312230	0
5	0 685	58.2	1227	9	BD097512	Novel
7	9	æ	26	6	AB044934	HOMO S
2	683	æ	17	9	AX301763	
N	683	8	1173	6	AF307973	AF307973 Homo sapi
c 54	ø	'n,	236694	7	AC118386	
22	621	ď	1291		_	Sus sc
Š	9	'n	1451	70	AF358858	8 Cavi
7	4	7	140555	σ	AC007922	Homo s
7	4	7	166206	~	AC009668	AC009668 Homo sapi
~	4	7	167296	7	AP002507	Ношо
3(7	169144	σ	₹*	
m)	4	ζ.	184938	7	4	9 Ношо
m	4.		193779	N	1132	7 Homo
m	271	3,	1326	9	3	1922 S
3,	_	ů,	1249	10		32675
ĕ	172.	4.	1239	9		vove
ä	172.	14.7	1242	10	AY009371	X009
m	172.	4.	2700	9	E39809	9 Nove
ñ	150	ς.	1339	10	AF267537	AF267537 Cavia por
3	145.	ď	18105	9	BD189979	3979 Use of
4	143.	ų.	2067	10	214	12145
	143.	12.2	2483	10	S	153
	143.	ď,	1335	10	2379	7
4	14	ς.	1338	9	AR104204	AR104204 Sequence
	143.	ς.	1338	9	m	5288 G
				•	20000	1 0 0 0 0 0 0
						2000

ALIGNMENTS

mRNA linear ROD 02-SEP-2001	ads.	; Euteleostomi;	e; Murinae; Mus. stamine H4
linear	complete	Vertebrata	.hi, Murida 1,T.W. .nea pig hi ariation
mRNA	r mkna,	niata;	rrognat venberg and gui
	Mus musculus histamine H4 receptor mKNA, complete cds. AF358859 AF358859.1 GI:15420534		Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 1338) Liu, C., Wilson, S., Kuei, C. and Lovenberg, T.W. Comparison of human, mouse, rat, and guinea pig histamine H4 receptor suggests substantial species variation
RESULT 1 AF358859 LOCUS	DEFINITION ACCESSION VERSION KEYWORDS	SOURCE ORGANISM	REFERENCE AUTHORS TITLE

TGCAGGACAAGTAAT

```
CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 (bases 1 to 1593)
Liu,C., Wilson,S., Kuei,C. and Lovenberg,T.W.
Direct Submission
Submitted (12-MAR-2001) Molecular Pharmacology, The R.W. Johnson
Pharmaceutical Research Institute, 3210 Merryfield Row, San Diego,
CA 92121, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                          TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTTCTGTAC
                                                                                    accrerrecagrecrreagaeaeaerraagagerregegeregegregeaearaar
                                                                                                                                                       CCTGGATTGAAGGAATCAGCTGCATCTCGCTCACTCAGAAAGTCCTCGAAGAAGAAGCAGC
                                                                                                                                                                                                          841 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                 TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                         AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                             AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                         ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                        TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                      CCTTTGTGTCACACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleost
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus histamine H4 receptor mRNA, complete cds AF358860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 1593)
Liu,C., Wilson,S., Kuei,C. and Lovenberg,T.W.
Comparison of human, mouse, rat, and guinea pig 1
receptor suggests substantial species variation
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCGCTGTCACAGAACCAGTCATTCTTGT 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGCGCTGTCACAGAACCAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="G-protein-coupled receptor"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="histamine H4 receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Rattus norvegious"
/mol_type="mRNA"
/strain="Sprague-Dawley"
/db_rref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1593 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF358860.1 GI:15420536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .1593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AF358860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                   661
                                                                                    721
                                                                                                                      721
                                                                                                                                                     781
                                                                                                                                                                                         781
                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                         196
                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
AF358860
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                   원장
                                                                               g
                                                                                                         8
                                                                                                                                             g
                                                                                                                                                                                   ò
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                        \delta
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                        /trānslation="MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDR
NLRHRSNYFPLNLAISDFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASV
YNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQMVAVWILAFLVNGFMILASDSWKNS
                                                                                                                                                                                                                                                                                                                                                                         TUTKDCEPGFVTEWYILTITMLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGF
STYSSBAGAEHJRAGYACKTSNPGLKASBASKHESSPRRKSSIIVSLEWTHMUSSITAF
KVGSFWKSESAALIGPRYAELIGRKLARSLAILLSAFAICWAPYCLFTIVISTYPRT
BRPKSVWYSLAFWLQWFNSFVNPFLYPLCHRRPQKAFWKILCVTKQPALSQNGSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCCGGGTCCCCTTGGCATTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTICCICGIGGGITTGATTICCATICCICTGIACATCCCTCACGIGITGITTAACTGG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGTCTACAATATTGTCCTCATTAGCTACGATCGATACCAGTCTCAAATGCTGTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 660
2. (bases 1 to 1538)
Liu.C., Wilson, S., Kuei, C. and Lovenberg, T.W.
Direct Submission
Submitted (12-MAR-2001) Molecular Pharmacology, The R.W. Johnson
Pharmaceutical Research Institute, 3210 Merryfield Row, San Diego,
CA 92121, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTAATGTCTTCATTTGCCTTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATACTGGCTTTCTTGGTAAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AATTTTGGAAGTGGAATCTGCATGTTTTGGCCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCTGGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGGGCTCAACACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1538;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                          61. .1236
/note="G-protein-coupled receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 10;
                                                                                                                                                                                                                                                                      /product="histamine H4 receptor"
/protein_id="AAK97380.1"
/db_xref="GI:15420535"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 1176;
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                     organism="Mus musculus"
                                                                                                                                                                                                       db_xref="taxon:10090"
                                                                                                                      Location/Qualifiers
1. .1538
                                                                                                                                                                       /mol_type="mRNA"
/strain="BALB/c"
                                                                                                                                                                                                                                                          /codon start=1
                                                                                                                                                                                                                        .1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Simi
Matches 1176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                         source
 JOURNAL
REFERENCE
AUTHORS
                                                 TITLE
JOURNAL
                                                                                                                      FEATURES
                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄상
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DP OX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            λ
26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
```

ROD 02-SEP-2001

Euteleostomi;

histamine H4

1020 1080 1080 1140 1140

```
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wilson, R.K.
                                                                               961
                                                                                                                                                                                                                                           1141
                                                                                                        966
                                                                                                                                  1021
                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                    1176
  876
                          901
                                                                                                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                           RESULT 3
AC131672/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                         셤
                                                                                                                                                                                                               셤
                                              a
                                                                                                      g
                                                                                                                                à
                                                                                                                                                                                     ò
                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                  셤
                         ò
                                                                              δ
                                                  YSIVLISYDRYQSVSNAVRYRAQHTGILKIVAQMVAVMILAFLVNGPMILASDSWKNS
TWTEBCEPGFVTEWYILAITAFLEFLLPVSLVYFSVQIYWSLWKRGSLSRCPSHAGF
IATSSRGTGHSRRTGLACTTSLPQLKEPAASLHSESPRGKSSLLVSLRTHMSGSIIAF
KVGSFCRSESPVLHGPREHVELLRGRKLARSLAVLLSAFAICWAPYCLFTIVLGSTYRRG
ERPKSIWYSIAFWLQWFNSLINPFLYPLCHRRFQKAFWKILCVTKQPAPSQTQSVSS"
/protein_id="AAK97381.1"
/db_xref="G1:15420537"
/translation="MSESNGTDVLPLTAQVPLAFLMSLLAFAITIGNAVVILAFVADR
/translation="MSESPFVGYISIPLYIPHTLFNWNFGSGICMFWLIDYLLCTASV
NLRHRSNYFFINLAISDFFVGYISIPLYIPHTLFNWNFGSGICMFWLIDYLLCTASV
                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                155
                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                      215
                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                         275
                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                               335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     875
                                                                                                                                                                                                                           95
                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                              GACTICITICGIGGIGICALCICCATICCICIGIACAICCCICACGCIGITIAAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                     AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCGTCTACAGTATTGTCCTCATTAGCTACGATACCAGTCCAGTTTCAAACGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATACTGGCTTTCTTGGTCAATGGCCCAATGATTCTGGCTTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCICITICAGGGGCACIGGACACICAGGAACIGGGTIGGCTIGGGAAGICIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGGATTAAAGGAACCAGCCGCATCCCTTCATTCAGAAAGTCCACGAGGAAAGAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                  AIGICGGAGICTAACAGTACTGGCAICTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                           TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                Transferecerscentecentracearassearssersesserenterinasseren
                                                                                                                                                                                                                                                                                                           GACTTCCTCGTGGGTTTGATTTCCATTCCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGTTATAGAGCACACACACTGGCATCCTGAAATTGTTGCTCCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATACTCCCTTTCTTCGTAAATGCCCCCATGATTCTCGCTTCAGATTCTTCGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 576 GCATICTIGGAATICCIGCICCCIGICCTIGGIGGICTATITCAGIGIACAGATITAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGAGCCTGTGGAAGCGTGGGAAGTCTCAGTAGGTGCCCTAGCCACGCTGGATTCATCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCICTICCAGIGCITCAGGACACITACACAGAGCIGGGIGGCTIGCAGGACAAGIAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCCTGGTGTCCTTAAGGACTCACATGAGCGGTAGTATCATCGCCTTCAAAGTGGGTTCC
                                                                                                                                                                          Gaps
                                                                                                                                             81.5%; Score 958.4; DB 10; Length 1593; larity 88.4%; Pred. No. 1.5e-260; Conservative 0; Mismatches 136; Indels 0;
                                                                                                                                                            Similarity
                                                                                                                                                            Best Local Sim
Matches 1040;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                               276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                   96
                                                                                                                                                                                                                                                                                                                                       156
                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                           216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                 Query Match
                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                           원
                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                     ò
```

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                     1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC131672 200346 bp DNA linear HTG 06-NOV-2003 Mus musculus chromosome UNK clone RP23-314021, WORKING DRAFT SEQUENCE, 4 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Submitted (25-AUG-2002) Genome Sequencing Center, 4444 Forest Park
Briway, St. Louis, MO 63108, USA
3 (bases 1 to 200346)
Wilson,R.K.
935
                                                           096
                                                                                                                   995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Forest Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae; Mus.
TTCTGCCGATCAGAAAGCCCCAGTGCTTCACCAGAGAGCACGTGGAGCTTCTCAGAGGC
                                                           AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                           TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCCAGAACGCCCCCAAATCGGTG
                                                                                                                                                                                                                TATTGCCTGTTCACAATTGTTCTTTCAACTTATCGCAGAGGGGAGCGCCCCAAATCGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1116 certiforgeceacacactriccacaaccertricrecaacatacterorgacaaacaa
                                                                                                                936 AGGAAGCTAGCCAGGTCGCTAGCTGTCCTCCTGAGTGCTTTTGCCATTTGCTGGGCTCCG
                                                                                                                                                                                                                                                                                                 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                   1056 regracacearaccerrreceracacacacacrearreacrararacerrrerarac
                                                                                                                                                                                                                                                                                                                                                                                                                     CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            On Nov 6, 2003 this sequence version replaced gi:22475584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chemistry: Dye-primer ET; 0% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 199211 bases at least Q40
Consensus quality: 199561 bases at least Q30
Consensus quality: 199715 bases at least Q20
Insert size: 199000; agarose-fp
Insert size: 199999; sun-of-contigs
Quality coverage: 13.37 in Q20 bases; sum-of-contigs
Quality coverage: 11.03 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center: Washington University Genome Sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGCGCTGTCACAGAACCAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGCACCTTCACAGACCCAGTCAGTATCTTGT 1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (06-NOV-2003) Genome Sequencing
Parkway, St. Louis, MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The sequence of Mus musculus clone Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----- Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 (bases 1 to 200346)
McPherson, J.D. and Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center code: WVGSC
Web site:http://genome.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequencing vector: M13; 0%
Sequencing vector: plasmid; 100%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---- Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata,
Mammalia, Eutheria, Rodentia,
1 (bases 1 to 200346)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus muscuīus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC131672
AC131672.2 GI:38194370
```

PAT 08-AUG-2001

linear

1176

240

240

180

300

180

120 120

09

Gaps

6

Indels

Length 1173;

```
92999 TACCCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAG 92940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA 300
   GTGTGGTACAGCATTCCCTTCTCGCTGCAATGGTTCAATTCGTTTAATCCCTTTCTG
                                                                                                                                                         CCATACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCG
                                                                                                                                                                                          GTGTGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTG
                                                                                                                                                                                                                                                         TACCCTTTGTGTCTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAG
                                                                                       GGCAGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCT
                                                                                                                        CCATACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCG
                                                       GGCAGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 GACTICTITGIGGGIGTGATCICCATICCTITGIACATCCCICACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Laz, T.M., Monsma, F.J., Morse, K.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 1173)
Behan, J.X., Hedrick, J.A., Laz, T.M., Monsma, F. Umland, S.P. and Wang S.
Polynucleotide encoding a histamine receptor Patent: US 6204017-A 1 20-MAR-2001;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                         CAACCAGCGCTGTCACAGAACCAGTCAGTATCTTGA
                                                                                                                                                                                                                                                                                                                                              CAACCAGCGCTGTCACAGAACCAGTCAGTATCTTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 686.6; DB
Pred. No. 2e-183;
                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                          AR142850 1173 bp
agudence 1 from patent US 6204017.
AR142850. GI:15104136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="unknown"
/wol_type="unassigned
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              58.4%;
75.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 75.1
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unknown
                                                                                                                                                                                                                                                                                                                           1138
                                                       868
                                                                                                                        958
                                                                                                                                                                                        1018
                                                                                                                                                                                                                                                         1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                      93239
                                                                                       93179
                                                                                                                                                         93119
                                                                                                                                                                                                                         93059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
AR142850
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                    ò
                                                                                 d
                                                                                                                        ð
                                                                                                                                                qq
                                                                                                                                                                                      ò
                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATT 93480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCTTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGGCTTCTCAGA 897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCATATCCCTGGAACATGTGTTTTTCATTAAACCACATTAGTTGTCTGGTTTCTTGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTACCTCTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGTCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GIGICITATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACTGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATCCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATCCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAGAGGAGAAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACAATGCTCTTGGAATTCCTGCTTCCTGTCTCTCTGTGGCTTATTTCAATGTACAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
NOTE: This is a 'working draft' sequence. It currently consists of 4 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69.8%; Score 821.4; DB 2; Length 200346; 95.9%; Pred. No. 1.1e-221;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                  1 56: contig of 56 bp in length
57 156: gap of unknown length
157 1270: contig of 1114 bp in length
271 1370: gap of unknown length
371 85906: contig of 48536 bp in length
907 86006: gap of unknown length
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36;
                                                                                                                                                                                                                                                                                                                                                                                                                                     1371. .85906
/note="assembly_name:Contig16"
                                                                                                                                                                                                                                                                                                                                                                        1. .56
/note="assembly_name:Contig10"
                                                                                                                                                                                                                                                                                                                                                                                                                       'note="assembly_name:Contig11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86007. .200346 - // note="assembly_name:Contig17"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
mol_type="genomic DNA"
/db_xref="texon:10090"
/chromosome="UNK"
/clone="RP23-314021"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 95.9
Matches 843; Conservative
                                                                                                                                                     57
1271
1371
85907
86007
                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                          misc feature
                                                                                                                                                                                                                                                                                                                                                                                                                                        misc feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            93659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93419
                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
```

us-10-626-445-5.rge

λ Ω

q

 δ g δ d ð q ð В

```
1. .1173
/organism="unknown"
/mol_type="genomic DNA"
                                                                  Query Match
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                    301
   source
                                        ORIGIN
                                                                                                                              ð
                                                                                                                                                      g
                                                                                                                                                                                     à
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                          \delta
                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                  \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \stackrel{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TATICICITICACAATIGECCTITICATITIATICCTCAGCAACAGGTCCTAAAICAGTI 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTCTTTTGTAT 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAT 18-DEC-2003
                         420
                                                       480
                                                                                  476
                                                                                                               540
                                                                                                                                           534
                                                                                                                                                                      009
                                                                                                                                                                                                   594
                                                                                                                                                                                                                               999
                                                                                                                                                                                                                                                            654
                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                  714
                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                         774
                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                 834
                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   954
420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          894
                                                                                                                                                                                     535 TCATTCTTGGAATTCGTGATCCCAGTCATAGTCGCTTATTTCAACATGAATATTAT
                TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                      541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                               TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                             GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                         715 TCTGCATCGACAGAAGTTCCTGCATCCTTTCATTCAGAGAGACAGAGAAAAAAGAGTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTTATAGGGCTCAACACACCTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                      ATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGGATTCTTGGAAGAACAGC
                                                                      421 GTGCTGGCCTTCTTAGTGAATGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGA----
                                                                                                                                        --rgaaggragraargraaccragartrrrrcagaarggracarccrrgcarcaca
                                                                                                                                                                                                                                                ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                              CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                      ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                 crcarierririccircaagaaecaagargaaragcaaracaarrigcrrccaaaargggrrcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGAGATTAGCCAAGTCACTGGCCATTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCA
                                                                                                               ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1173 bp
US 6613533.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR391860
Sequence 1 from patent
AR391860
AR391860.1 GI:40115588
                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1135
                                                       421
                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                            595
                                                                                                                                                                                                                                                                                                                                                                                                                                 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1015
361
                         361
                                                                                                               481
                                                                                                                                          477
                                                                                                                                                                                                                                                                                                                  655
                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
AR331860
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
```

qq

à

Pb Qd

à g 임 à d ð g

ò

임 ò

δ

```
420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGTATATAAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421 ATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09
                                                                                                                                                                                                                                                       09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541 AIGCICITGGAAIICCIGCITCCIGICAICTCTGIGGCTIAIITCAAIGIACAGAIIIAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                          61 TIAAIGICITCATITGCCITIGCIAIAAIGGIAGGCAAIGCIGIGGICATCITAGCCITI
                                                                                                                                                                                                                                                                                                                                                                            61 TITATGICCITAGTAGCTITIGCIAIAAIGCIAGGAAAIGCITIGGICAITITAGCITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 GACTÍCTTTGTGGGTGTGAICTCCATÍCCTTTGTACATÓCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 GALTITGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --TGAAGGTAGTGAATGTGAACCTGGATTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       595 regalecereregala de la contra dela contra de la contra de la contra de la contra de la contra dela contra de la contra del la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra del la contra de la contra del la contra de la contra del la contra d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655 GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         775 CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rrcrcccaarcagarrcrgragererrcaeceaagggaacargrrgaacrgerragagee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                   1 Argecagaracraarageacaerarerarreacraageacreergrantragearre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Greciescerretradresidadescearicarretradretresidades
                                                                                  9;
    1173
    Length
                                                                                      Indels
    9
                                                                                  0; Mismatches 284;
Score 686.6; DB
Pred. No. 2e-183;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dd
```

Morse, K.L.,

Monsma, F.J.,

Laz, T.M.,

1 (bases 1 to 1173)
Behan, J.X., Hedrick, J.A., Laz, T.M., Umland, S.P. and Wang, S.
Histamine receptor.
Patent: US 6613533-A 1 02-SEP-2003;
Location/Qualifiers

TITLE JOURNAL FEATURES

REFERENCE AUTHORS

GI:40115588

Unknown. Unclassified. Unknown

	0	RESULT 7 AX139113 LOCUG DEFINITION Sequence 1 from Patent EP1096009. AX139113 VERSION AX139113 VERSION AX139113 VERSION AX139113.1 GI:14274791 KEYWORDS SOURCE Homo sapiens (human) ORGANISM Homo sapiens (human) ORGANISM Homo sapiens (human) Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. REFERENCE AUTHORS Peter, B. and O'Reilly, M.A. TITLE G-protein coupled receptor-like polypeptide JOURNAL Patent: EP 1096009-A 102-MAY-2001; Fizer Limited (GB); PPIZER INC. (US) Fizer Limited (GB); PPIZER INC. (US) Footsonism="Homo sapiens" 1173
Oy 961 TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020	DEFINITION Sequence from Patent WO0125432. LOCUS ACCESSION AX109119 AX109119 AX109119 AX109119 AX109119 AX109119 AX109119. GI:13924093 AX109119.1 GI:13924093 SOURCE SOURCE ORGANISM Homo sapiens (human) ORGANISM Homo sapiens (human) ORGANISM Homo sapiens (human) ORGANISM Homo sapiens (human) REFERENCE AUTHORS Homo sapiens (human) AUTHORS Behan J.X., Hedrick, J.A., Laz, T.M., Monsma, F.J., Morse, K.L., Internation of 10.25432-7. TITLE Histanhine receptor JOURNAL Patent: WO 0.25432-7. TITLE AUTHORS CORPORATION (US) FEATURES I	0y 121 GTGGTGGACAGAAACCTTAGACATCGAAGTATTTTTTTTT

QQ

ð

qq ö g

à

g

 δ

g ò g à gg ò g 8 g 8 g 8 d ð Db

ò

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota; Metazoa; Chordata; Catarrhini; Hominidae; Homo.

Ti (bases 1 to 1173)

Stand Olaylee, M.A.

Novel polypeptide

M. Peter; B. and Olaylee, M.A.

Novel polypeptide

M. Peter; D. and Olaylee, M.A.

Novel polypeptide

M. Peter; D. and Olaylee, M.A.

Novel polypeptide

Novel polypeptide

M. Peter; D. and Olaylee, M.A.

Staten: JP 2001211889-A.1 07-AUG-2001;

PR 20-0CT-1899-A.1

PD 07-AUG-2000

PF 27-OCT-2000 JP 2000329359

PR 29-OCT-1999 GB 9925641:4, 20-APR-2000 GB 0009973:9 PI

BEAT PETER, MARK ANYONY OLAYLEE

PC C12N15/09, A61R28/00, A61R39/395, A61R39/395, A61R48/00, A61P1/04, PC

A61P11/00,

PC A61P11/00,

PC A61P11/00,

PC CO7K14/00,

PC CO7K14/00,
                                    TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                    PAT 27-AUG-2002
                                                                                                                                               1075 ccarricricricaaacccrirrcaaacccrirrcricaaaarariarrirgiaraaaaaaccaa 1134
955 TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C12P21/02,C12Q1/02,G01N33/15,G01N33/50,G01N33/53//C12P21/08,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTAATGICTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGGTCATCTTAGCCTTT
                                                                     recraracaarrecarrrrecrreaciderreaarrecrrrerearrecrrrrerar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ATGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                            CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism='Homo sapiens (human)'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                           58.4%; Score 686.6; DB 6;
larity 75.1%; Pred. No. 2e-183;
Conservative 0; Mismatches 284;
                                                                                                                                                                                      CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .1173
/organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                      ďq
                                                                                                                                                                                                                                                                                                                      1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C12N15/00,
A61K37/02,C12N5/00
                                                                                                                                                                                                                                                                                                                                                                            GI:22556984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polypeptide
                                                                                                                                                                                                                                                                                                                                                                        BD015847.1 GI:2255691
JP 2001211889-A/1.
Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                    BD015847
Novel polypeptide.
BD015847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Sim:
es 886;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PC PC CC CC FT FT FT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S:
Matches 886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                        1021
                                                                           1015
                                                                                                                1081
                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                 RESULT 8
BD015847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                      ò
                                                                       g
                                                                                                            ò
                                                                                                                                             QQ
                                                                                                                                                                                      ò
                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540.
                                                                                               ζ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960
                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Grechedecentriagreanedeceandariciagriciagacitricagacianida 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         894
                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --rgaaggragragagragaaccragarrirrrrcagaarggracarccrraccarcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 AIGCICITGGAATICCIGCTICCIGTCAICTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               775 crcangririccrcaagaaccaagargaaragcaaracaarrgcrrccaaaargggrrcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rrcrecearcadrucignadererricaedaaddaacardrugaacrecinadagee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GICTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                        AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGTATATAAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTAGAATGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGGGGTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACGAACACAAAAGGACTGTGGCCTTGCTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                             GACTICCICGIGGGITIGATITICCATICCICIGIACATCCCICACGIGITGITIAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                GACTICITIGIGGGIGIGATCICCATICCITIGIACATCCCICACACGCIGITCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                   1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                    Gaps
                                                                                             9;
                                                          Length 1173;
                                                                                               Indels
                                                          Score 686.6; DB 6;
Pred. No. 2e-183;
0; Mismatches 284;
       db xref="taxon:9606"
                                                          Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655
                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                         ORIGIN
```

120 120 180

09 9

Gaps

q ð g δ

ð

cds

complete

mRNA,

(AXOR35)

H4

```
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ፟
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         955 TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      regraradaarirecarrirecerreagiegricaarrecririgicaarecrerrirgiar 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccarrigicicacaacccrrrcaaaaccrrrcrrcaaaarararrrrgraraaaaacaa 1134
                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                      480
                           240
                                                                         240
                                                                                                                                                                           300
                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                954
                                                       --TGAAGGTAGTAGTGAATCTTGAATTTTTTTTTTTTGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGCTCTTGGAATTCCTGCTTCCTGTCATCTTGTGGCTTATTTCAATGTACAGATTTAC
                         GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                         AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                            GATITIGGAAAAGGAAATCIGTGTATTITGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                   TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG
                                                                                                                                                                                                                                                                                                                   TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                              rcrraradaacrcaacaracregegrerreaagarrerracrereargeregecerrreg
                                                                                                                                                                                                                                                                                                                                                                                                                 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGCTGGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      resasceréresascereareareresarascereceaascearecresacresere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Grenericea Antonia de Carte de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTGGATTGAAGGAATCAGCTGCATCTCGCTCAGAAGAAGTCCTCGAAGAAGAGGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTTTGTGTCACAGGCGTTTCCAGAAGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         595
                                                                                                                         241
                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                      181
                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1135
                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           895
                                                                                                                                                                                                                                                                                                                                               g
                                                               g
                                                                                                                    \delta
                                                                                                                                                       g
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                          g S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΩD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               - d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ŕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          장염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
```

```
YNIVLISYDRYLSVSNAVSYRTQHTGVLKIVTLMVAVWVLAFLVNGPMILVSESWKDE
GSECEPGFESEWYILAITSFLEFVIPVILVAYFNNNIYWSIWKRDHLSRCQSHPGLTA
VSSNICGHSPRGRLSSRRSLSASTEVPASFHSERQRRKSSLMFSSRTKNNSNTIASKM
GSFSQSDSVALHQREHVELLRARRLAKSLAILLGVPAVCMAPYSLFTIVLSFYSSATG
PKSVWYRIAFWLQWFNSFVNPLLYPLCHKRPQKAFLKIFCIKKQPLBSQHSRSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
I (bases 1 to 1173)

Zhu, Y., Michalovich, D., Wu, H.-L., Tan, K.B., Dytko, G.M.,
Mannan, I.J., Boyce, R., Alston, J., Tierney, L.A., Li, X.,
Herrity, N.C., Vawter, L., Sarau, H.M., Ames, R.S., Davenport, C.M.,
Hieble, P., Wilson, S., Bergama, D.J. and Fitzgerald, L.R.
Cloning, expression, and pharmacological characterization of a
Mol. Pharmacol. 59 (3), 434-441 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Box
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ariscicadaracita aradica en cantitarica cita en constructiva si cantita de la construcción de la construcció
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTAATGICTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ritaigiccitagradcritigcrataaigcraggaaaigcritiggreatriagcritir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTICITITGIGGGIGIGATCICCATICCTTIGIACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lilyatoo
Zhu,Y., Michalovich,D. and Fitzgerald,L.R.
Direct Submission
Submitted (30-NOV-2000) GlaxoSmithKline, 709 Swedeland Rd.,
1539, King of Prussia, PA 19406, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 686.6; DB 9;
Pred. No. 2e-183;
0; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H4 "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .1173
/organism="Homo sapiens"
sapiens histamine receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="18"
/map="18q11.2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
/product="histamine
                                                                  AF325356.1 GI:15553202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |. .1173
|gene="AXOR35"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene="AXOR35"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 75.1%;
Matches 886; Conservative (
                                                                                                                                            sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .1173
                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11179436
                                                                                                                                            Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                             ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

g

ò

원

ò

d à PP δ g

 δ

qq à g δŻ 엄 δ d ò g à g ð

ð

```
// COCUTE = "ILITETAMINE receptor H4"

/produci = "ILITETAMINE receptor H4"

/protein id="AAK43542.1"

/db xref="G1:138"6644"

/translation="MPDTNSTINLSLSTRVTLAFFWSLVAFAIMLGNALVILAFVVDK
NLRHRSSYFFIALAISDFFVGYISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASV
YNIVLISYDRYLSVSNAVSYRTQHTGVLKIYTLMVAVWVLAFIVNGFWILVGESWKDE
GSBCEPGFFSEWYILATISFLEFVIPYILVAFFWNNIYWSLAFISRCQSHPGITA
VSSNICGHSFRGRLSSRRSLSASTEVPASFHSERQRRXSSLMFSSRTRMNSNTIASK
GSFSQSDSVALHQMFNSILARARLAKSLAILLGGVFAVCWAPYSLFTIVLSFYSSATG
PKSVWYRIAFWLQWFNSFVNPLLYPLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS"
Gustafson,E.L., Qiao,X., Wang,S., Hedrick,J.A., Greene,J., Bayne,M. and Monsma,F.J. Jr.
Cloning and characterization of a novel human histamine receptor J. Pharmacol. Exp. Ther. 296 (3), 1058-1066 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                        100) Human Genomics Research, Schering-Plough 2015 Galloping Hill Rd., Kenilworth, NJ 07033,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --reaaggragraargraaccresarrrrrrrcgsaargsracarccrrscara
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTTCCTCGTGGGTTTGATTTCCATTCCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481 ACGAACACAAAGGACTGTGAGCCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 TITATGICCITAGIAGCITITICCIATAATGCIAGGAAATGCITIGGICAITITAGCITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 ATGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTAATGTCTTCATTTGCCTTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .,
                                                                                                                                                                                                        S., Behan, J., Laz, T.M., Greene, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 686.6; DB 9; Length
Pred. No. 2e-183;
0; Mismatches 284; Indels

    1173
/note="G-protein coupled receptor"

                                                                                                                                                                                                                                                                                                                                                                                                          1. .1173
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="18"
                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                      Submitted (15-DEC-2000)
Research Institute, 2015
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.4%;
75.1%;
                                                                                                                                                                             2 (bases 1 to 1173)
Monsma, F.J. Jr., Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               886; Conservative
                                                                                                                                                                                                                                                                 Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                    21104636
                                                                                                                                               11181941
                                                                                                                                                                                                                                      Bayne, M.
Direct S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S:
Matches 886,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                           TITLE
JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                               PUBMED
                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRI 29-APR-2001 cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1075 CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAGGCAA 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. I (bases I to 1173)
Morse, K.L., Behan, J., Laz, T.M., West, R.E. Jr., Greenfeder, S.A., Anthes, J.C., Umland, S., Wan, Y., Hipkin, R.W., Gonsiorek, W., Shin, N.
                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   954
                                                                 420
                                                                                                                       420
                                                                                                                                                                                480
                                                                                                                                                                                                                                      476
                                                                                                                                                                                                                                                                                                                                                       534
                                                                                                                                                                                                                                                                                                                                                                                                             009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 654
        TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TICIGGCGAICGGAAAGIGCAGCGCIICGCCAAAGGGAGIACGCAGAGCTICICAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               955 TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAAATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1015 IGGTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTCTTTTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   775 CTCATGTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCATICITGGAATICGIGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Grenericea Acarer de de la contra de de la contra dela contra de la contra dela contra dela contra de la contra del la contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  retraradaacteaacaracregegererreaagarretracrereargeregegerireg
                                                                                                                                                                                421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                              ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                       --TGAAGGTAGTGAATGTGAACCTGGATTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGGTGGCTTGCAGGACAAGTAAT
                                                                 TCTTATAGGGCTCAACACACCTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                 linear
complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTACCATCACAACACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA
H4 mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AF329449 1173 bp
Homo sapiens histamine receptor
AF329449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF329449.1 GI:13876643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1135
                                                                                                                          361
                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
              301
                                                                 361
                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                       477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 10
AF329449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
```

240 240

180

120

09 9

300

360 420 420 480 540

SOURCE

g

pp

a à

à

ð ΩD ò g ò Ωp

qq

δ

qq à qq δ qq à d

à

```
YNIVLISYDRYLSVSNAVSYRTQHTGVLKIVTLMVAVWYLAFLVNGPMILVSESWXDE
GSECEPGFFSEWYILAITSFLEFVIPVILVAYFNMNIYWSLMKRDHLSRCQSHPGLTA
VSSNICGHSFRGRLSSRTSLSASTEVPASFHSERQRRKSSLMFSRTKMNSNITASKM
GSFSOSDSVALHQRFHVELLRAKSLAILLGVPRVCMAPYSLFTVLSFYSSATG
PKSVWYRIAFMLQWPNSFVNPLLXYPLCHKRFQKAFLKIPCIKKQPLPSQHSRSNSS
                                                                                                                                                                            /tränglation="MADTNSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDK
NLRHRSSYFFLNLAISDFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTAATGICTICATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATITIGGAAAGGAAATCTGTGTATITIGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tritaricricritagiagirririscrariaariscrassaariscririsgicarrirassirrir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTICITIGIGGGIGIGATOTOCATICOTITIGIACATOCOTOACACGCIGITICGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC

    - rgaaggragraficaaccragaritritricgaariggracarccragcarcaca

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               535 TCATICITGGAATICGIGAICCCAGICAICITAGICGCTIAITICAACAIGAATAITIAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GICTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTGGATTGAAGGAATCAGCTGCATCTCGTCACAAAAGAGTCCTCGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Grecrescerrenadreaaresceaarearrenagrireagasererregaaga----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          redadecergradacergarcarereagradereceaaagecareergeaerger
                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                             ..
                                                                                                                                                                                                                                                                                                                                                        Length 1173,
                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _
_
_
_
                                                                                   receptor'
                                                                                                                                                                                                                                                                                                                                                      Score 686.6; DB 9;
Pred. No. 2e-183;
0; Mismatches 284;
                                                                                                                       receptor H4"
                                                                               'note="G protein-coupled
                                                                                                                                       /protein_id="AAL09297.1"
/db_xref="GI:15822541"
                                                                                                                     'product="histamine
                                                                                                   codon_start=1
                                                                                                                                                                                                                                                                                                                                                      / Match
Local Similarity 75.1%;
nes 886; Conservative
  1. .1173
/gene="H4"
1. .1173
/gene="H4"
                                                                                                                                                                                                                                                                                                                                                                                                                                   Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                           Best Loca
Matches
      gene
                                        CDS
                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \dot{\varsigma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \overset{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AYUUB2BO 1173 bp mRNA linear PRI 01-OCT-2001
Homo sapiens histamine receptor H4 (H4) mRNA, complete cds.
AY008280
                                                                                                                                                                                                                                                                         774
                                                                               099
                                                                                                                                                          720
                                                                                                                                                                                                714
                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                      834
                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            954
                                                                                                                   654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (Dases 1 to 1173)
Nguyen, T., George, S.R., Lee, D.K., Cheng, R., Lynch, K.R. and Discovery of H4, a Novel Histamine Receptor
Unpublished
ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                       CTCATGTTTTCCTCAAGAACCAAGATGAATAACAATACAATTGCTTCCAAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                  TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGATATTAT
                                                                           TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                               regadecrigidaadecerearcarcadradereceaagecearecrigaacrigacriger
                                                                                                                                                        ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                          GTCTCTTCCAACATCTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                 CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                              ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                         TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                           rrcrccaarcagarrcrgradcrcrrcacaaagggaacargradacrradaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TATTCTCTCTTCACAATTGTCCTTTCATTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  regraradaarrecarrrrescrrcagresrrcaarrecrrrrerarcerrrrerar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccarrererandescerrreaaagecrrreraaaarararrrreraaaaaaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 (bases 1 to 1173)
Nguyer, T., George, S.R., Lee, D.K., Cheng, R., Lynch, K.R. and Nguyer, T., George, S.R., Lee, D.K., Cheng, R., Lynch, K.R. and Direct Submission
Submitted (26-SEP-2000) Pharmacology, University of Toronto, Taddle Creek Rd., Rm. 4353, Toronto, Ont M5S 1A8, Canada Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCTACCATCACAACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .1173
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AY008280.1 GI:15822540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                    535
                                                                                                                 595
                                                                                                                                                        199
                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                       715
                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                  775
                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                               835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1135
                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
AY008280
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
```

g

ð

g

ð d

ă

120 120 180 180 240 240 300 300 360 360 420 420

9 09 480

476 540 099

654 720 714

009

594

534

```
775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             955
                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                       477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                         61
                                                                                61
                                                                                                       121
                                                                                                                                                       181
                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                               121
                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 & B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 8 8 8
                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 8
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                               \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                              ਨੇ
                           g
                                                       à
                                                                         g
                                                                                                     õ
                                                                                                                          g
                                                                                                                                                    \delta
                                                                                                                                                                       g
                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /traislation="MPDTNSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDK
NLRHRSSYFFLALAISDFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASV
YNIVLISYDRYLSVSNAVSYRTQHTGYLKIVTLMVAWWVLAETNWGFMILVSBSWKDE
GSECEPGFFSEMYILAITSFLEFVIPULYYFNMNIYWSLWKRDHLSRCQSHPGLTA
VSSNICGHSFRGRLSSRRSLSASTEVPASFFSRRQRKSSLWFSSEKTKMSNTIASKM
GSFSQSDSVALHQRFHTBLLRARRLAKSLAILLGVFAVWAPYSLFTIVLSFYSSATG
PKSVWYRIAFWLQWFNSFVNPLLYPLCHKRFQKAFLKIFFCIKKQPLPSQHSRSVS"
                                                                                                                                                                  TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                  TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                       recraracaarrecarrrrecrrecarecrreaarrecrrrereaarcerrritera 1074
                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                                 PRI 03-SEP-2002
                                                                                                                                                                                                                                                                                        ccarrerereaedecerrreaaaggerrrereaaargeraaarararrereraaaaaggaa 1134
                                                                      900
                                                                                                                                            954
                                              834
                                                                                             894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata, Vertebrata, Buteleostomi,
Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Center, Guthrie Research
PA 18840, USA
                                                                                                                                                                                                                                                                CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                     AGGAAGCTAGCCAGGTCACTGGCCATCCTTTGGCGTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                   ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                               creargritrecreaagasceaagargaaragaracaaracearrgcrrecaaaargggrree
                                                                                            Trefeccaareagarrergragererreaceaaagggaearargaaergerragagee
                                                                                                                                                                                                                                                                                                                                                                                               AY136745 1.03-51
Homo sapiens histamine receptor H4 (HRH4) mRNA, complete cds.
AY136745.
AY136745.1 GI:22658472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1173;
                                                                                                                                                                                                                                                                                                                 --CAGTCAGTATCTTCA 1176
                                                                                                                                                                                                                                                                                                                                      1135 CCTCTACCATCACACACACTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Ver
Mammalia, Eutheria, Primates, Catarrhini, H
1 (bases 1 to 1173)
Publ. H. L. 11846a, S.R. and Aronstam, R.S.
Submitted (26-JUL-2002) cDNA Resource Cente
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 686.6; DB 9;
Pred. No. 2e-183;
); Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="histamine receptor H4"
/protein_id="AAN01271.1"
/db_xref="G1:22658473"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Institute, One Guthrie Square, Sayre,
   Location/Qualifiers
   1...1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .11/3
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/cell_type="leukocyte"
1. .1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .1173
/gene="HRH4"
1. .1173
/gene="HRH4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                 CCAGCGCTGTCACAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                          1075
                                                                                                                                                                                                                                                                                                                 1141
                                                                                                835
                                                                                                                                              895
                                                                                                                                                                      196
                                                                                                                                                                                                                                            1015
  715
                          781
                                                                         841
                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                         RESULT 12
AY136745
LOCUS
DEFINITION
ACCESSION
KERYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                            g
                                                                                                                                        g
                                                                                                                                                                     \delta
                                                                                                                                                                                         g
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                        D
                                                                                                                                                                                                                                                                                                                 ∂
                                                                                                                                                                                                                                                                                                                                     g
                                          g
                                                                    \delta
                                                                                                                     \overset{\sim}{\circ}
                     ð
```

Gaps

9

Indels

..

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IGGIACAGCATIGCCITCIGGCIGCAAIGGIICAAITCGITTGITAAICCCITICTGIAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   654
                                                                                                                                                                 180
                                                                                                                     120
                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                              120
9
                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 AIGCICITGGAAITCCTGCTTCCTGTCATCTTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATICITIGGAATICGIGAICCCAGICAICTIAGICGCITATITICAACAIGAAITITAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               crearetritecreaagaaceaagargaaragearacaarrgerrecaaarggerree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TICTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tricreceaarcadarrergradereiricaedaadadadargradaeergerradadee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                          481 ACGAACACAAAGGACTGTGAGCCTGGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTOTTCCAGTGCTTCAGGACACTTACACAGGGTGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  655 greterrecaacarergradacacrearreadaggradacrarerreadagagarerer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTGGATTGAAGGAATCAGCTGCATCACTCAGAAAGTCCTCGAAGAAAGCAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                TIPATGICITCATITGCCTTIGCTATATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                 GIGGIGGACAGAAACCITAGACAICGAAGIAATITITITITITITITGGCIAITICI
                                                                                                                                                                                         GACTICITIGIGGGIGIGATCICCATICCITIGIACATCCCICACACGCIGITCGAATGG
                                                                                                                                                                                                                                                                                                                                                                         241 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                     TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                     ATGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                 GACTICCICGIGGGITTGATTICCATTCCTCIGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                    AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421 GIGCIGGCCTICTIAGIGAAIGGGCCAAIGAITCIAGITICAGITICAGAGICTIGGAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1015
```

q ð g

ò

```
TGGTACAGCATTGCCTTCTGGCTGCATGGTTCAATTCGTTTGATCCCTTTCTTGTAC 1080
                                        240
                                                                       300
                                                                                                                                  360
                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAR-2002
                                                                                                                                                                                                              594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATICICIGITCACAATIGICCITICATITIATICCICAGCAACAGGICCIAAATCAGÍT 1014
                                                                                                                                                                                                                                                       ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                   534
                                                                                                                                                                                                                                                                                                                                                                                AIGCICITGGAATICCIGCTICCIGICAICTICIGIGGCTIAITICAAIGIACAGATITAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               regratadaatrecarririsscrircasresricaarrecririsrearrecriririsrar 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTICTIGGGGGGGGGGTGATCTCCTTTGTACATCCCTCACACGCTGTTCGAATGG
                                                                   AATTITIGGAAGIGGAATCIGCATGITITIGGCICATIACIGACIAICTITIGIGCACCGCA
        GACTICCICGIGGGITIGATITCCATICCICIGIACATCCCICACGIGITIAACIGG
                                                                                               GATTTTGGAAAGGAAATCTGTATTTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                               TCTTATAGGGCTCAACACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                           535 TCATICITGGAATICGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                -- TGAAGGTÁGTGÁATGTGAACCTGGATTTTTTTCGGAATGGTÁCATCCTTGCCATCACÁ
                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAGCCTGTGGAAGCGTAGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       redadecereriosaadecerearearerecasaaderecaaadeceareceredaere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCICITCCAGIGCITCAGGACACITACACAGAGCIGGGIGGCITGCAGGACAAGIAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655 GTĆTĊTTĊĊAACATCTGTGGAĊAĊTCATTCAGAGGTAGACTATĊTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   crcargriniccrcaagaaccaagargaaragcaaracaarrgcriccaaaargggricc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841 ITCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGGAGATTAGCCCAAGCCCATTCTCTTAGGGGTTTTTGCTGTTTGCTGGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                  Grechierracieariceceardaricariteracinacintelaciente
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AX376577 1266 bp Sequence 5 from Patent WO0200719.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                   181
                                                                   241
                                                                                                241
                                                                                                                                                            301
                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                   481
      181
                                                                                                                              301
                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                477
                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
AX376577
LOCUS
DEFINITION
      8
                                                                8 8
                                                                                                                       õ
                                                                                                                                                      셤
                                                                                                                                                                                        ે
                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  / evidence=experimental | product="histamine receptor H4" | product="histamine receptor H4" | product="inia"="ACA83493.1" | db xref="inia"="ACA83493.1" | db xref="inia"="11815.245." | db xref="inia"="ABDTNSTINLISISTRVTILAFFMSLVAFAIMLGNALVILAFVVDK | translation="MPDTNSTINLISISTRVTILAFFMSLVAFAIMLGNALVILAFVVDK | NLRHRSSYFFLNLA.SESFFCVOYISIPLYIPFTLEWDFGKEICVFWILTDYLLCTASV | NLNYLISYSFRINLA.SESFFCVOYISIPLYIPFTLAVFVMNYLAFILVNGPMILVSESWKDE GSBCGBFGERGERGEFFGEFFERPASFFRENCHESKSIMFSSRTKMNSNTIASKM GSFSQSDSVALHQREHVELLRARRIAKSLAILLGVFRAVCWAPYSLFTLYLSFYSSATG PKSVWYRIAFWLQMFNSFLYBLCHKRFQKAFLKIFCIKKQPLFSQHSRSVS"
 CATTGTGTCACAAGCCCTTTCAAAAGCCTTTCTTGAAAATATTTGTATAAAAAAGCAA 1134
                                                                                                                                                                         mRNA linear PRI 12-JAN-2002 receptor H4 (HRH4 gene).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GIGGIGGACAGAAACCTIAGACAICGAAGIAATIATITITICITAATITIGGCIAITICI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (11-JAN-2001) O'Reilly M.A., Discovery Biology, Pfizer
Ltd, Ramsere Road, Sandwich, Kent, CT13 9NJ, UNITED KINGDOM
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                eosinophils
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ardecadaracharaccacharchartharcachageachegererragearri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTAATGICTICATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITATGICCTIAGIAGCTITIGCIAIAAIGCIAGAAAIGCTITIGGICAITITIAGCITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                             Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Butele
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>ئ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1173;
                                                                                                                                                                                                                                                                                                                                            human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 686.6; DB 9; Length
Pred. No. 2e-183;
); Mismatches 284; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             receptor"
                                                                1176
                                                                                                                                                                                                                                                                                                                                              n
                                                           CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTGA
                                                                                  receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         function="G-protein coupled
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/cell_line="AML14.3D10"
1...1173
                                                                                                                                                                                                                                     gene.
                                                                                                                                                                                                                                                                                                                                            H4
                                                                                                                                                                   Homo sapiens mRNA for histamine AJ298292
                                                                                                                                                                                                                                                                                                                                         a histamine
l chemotaxis
                                                                                                                                                                                                                AJ298292.1 GI:18152452
histamine receptor H4; HRH4
Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'codon start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene="HRH4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene="HRH4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58.4%;
ilarity 75.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 1173)
                                                                                                                                                                                                                                                                                                                       O'Reilly, M.A.
Identification of a
Role in eosinophil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .1173
                                                                                                                                                                                                                                                                                                                                                                                                     O'Reilly, M.A.
                                                                                                                                                                                                                                                                                                                                                                        Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 886;
                                                             1141
                                                                                        1135
1081
                              1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sonrce
                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                       RESULT 13
HSA298292
                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
```

ORIGIN

g

à

g δ g

à

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAT 30-NOV-2001
                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                          918
                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
 600
                                                                                                             678
                                                                                                                                                   720
                                                                                                                                                                                         738
                                                                                                                                                                                                                                                                   798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1039 recraragaarrecarrrrecerreagregrreaarrecrrrerarecrerrrerar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                919 AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
541 AIGCICITGGAAITCCIGCITCCIGICAICTCIGIGGCIIAITICAAIGTACAGAITTAC
                                                                                                                                                                                                                                                               rcriscaticacasaastriccaticcaticaticaticasaasaasaasasa
                                                                                                                                                                                                                                                                                                                                                                                                                        trereceaareaaarrengradererreaeeaaaggaacargradaereeraaggee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              979 TATTCTCTCTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1099 CCATTGTGTCACAAGGGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAGGCAA
                                     rcarrcridgaarrcgrigarcccagrcarcrragicgcrrarrcaacargaararrar
                                                                           TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                     661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                               ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                               crcargriniccrcaagaaccaagargaaragcaaracaarrgcrrccaaaargggrrcc
                                                                                                                                                                                                                                                                                                                                                                                     TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGAAGCTAGCCAGGTCACTGGCCATCCTTTGGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                           679 Greterrecaacarereregacacarrecacaceracararerreraceacerarerre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Catarrhin; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1300;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lind, P., Sejlitz, T., Vogeli, G. and Wood, L.S. G protein-coupled receptors Patent: WO 0185793-A 1 15-NOV-2001; PHARMACIA & UPJOHN COMPANY (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 686.6; DB 6;
Pred. No. 2e-183;
0; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1159 CCTCTACCATCACACAGTCGGTCAGTATCTTCTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA

    .1300
    /organism="Homo sapiens"
    /mol_type="unassigned DNA"
    /db_xref="taxon:9606"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX301229 150m Patent W00185793.

AX301229 43:17382320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Butheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      58.4%;
75.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                           559
                                                                                                                                                                                                                                                                         739
                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                     199
                                                                                                                                                                                                                                                                                                                                                                                                                              859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
AX301229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                     g
                                                                               ò
                                                                                                                 임
                                                                                                                                                       ò
                                                                                                                                                                                         g
                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    / Eranelation="MPDTWSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVUDK
NETRESSYFFINALSISPFFVGVYISIPLYIPHTHERMDFGREICVFWITTDYLLCTASV
YNIVILSYDRYLSVARAVSYRTQHTGVLKIVTLAMAWWLAFLVNGPMILVGESWKDE
GSECEPGFFSEWYILAITSFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTA
VSSNICGHSFRGRLSSRRSLSASTEVAFFHSRSTRSKRSKSLSKRSTRSKSKRSKSSTRS
GSFSOSDVALHQREHVELLFARRLAKSLAILLGVFPVCMAPYSLFTVLSFYSGAT
PKSVWYRIAFMLQMPNDFLYPLCHRRRLAKSLAILLGVFPVCMAPYSLFTVLSFYSGAT
RKSVWYRIAFMLQMPNDFLYPLCHRRRLAKSLAILLGVFPVCMAPYSLFTVLSFYSGAT
RKSVWYRIAFMLQMPNDFLYPLCHRRPQMAFLKIFCIKKQPLPSQHSRSVSS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rergrararaacarrerecereareaeerareareearaeerereaerereaaargerere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGAACACAAAAGGACTIGITAGTITACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GIGGIGGACAGAAACCITAGACAICGAAGIAAITAITITITITITITITIGGCIAITITCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AATITIGGAAGTGGAATCIGCAIGITITIGGCICATIACIGACIAICITITGIGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          retratadaaereaacaracregegererreaagarrerratrearegeregegerreg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gracioscerretragranagadeceandaricragrireagaererregaaga----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         205 GACTICTITGIGGGIGIGAGICICCATICCITIGIACATCCCICACACGCTGTICGAATGG
                                                                                                                                                                                                                                                                                                                                                   /note="unnamed protein product; human TGR62 G-protein coupled receptor (GPCR)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTTCCTCGTGGGTTTGATTTCCATTCCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25 Argeccagaracraarageacaearcaarrrarcaeraageacregegererraerrragearrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Trialciccitagraccititgcialaargciaggaaargcitiggrcaltiagcriti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Eutelo
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 686.6; DB 6;
Pred. No. 2e-183;
0; Mismatches 284;
                                                                                                                                                         Lin, D.C., Zhao, J., Chen, J.L. and Cutler, G.
Novel receptors
Patent: WO 0200719-A 5 03-JAN-2002;
Tularik Inc. (US)
                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
/protein_id="rcAD26818.1"
/b_xref="GT:19170679"
/db_xref="REMTREMBL:CAD26818"
                                                                                                                                                                                                                                                                                           /mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                               'organism="Homo sapiens"
                                                                                                                                                                                                                                     Location/Qualifiers
                           GI:19170678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              58.4%;
75.1%;
                                                               Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                             ...1266
                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
es 886; Conserv
                             AX376577.1
         AX376577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Si
Matches 886,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                       ORGANISM
                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                 TITLE
JOURNAL
                           VERSION
KEYWORDS
SOURCE
           ACCESSION
                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DRIGIN
```

임 ò q ò g ð

à Op ð

d à g à g ò d

	GCCTTT 120	ATTTCT 180 ATCTCT 220	AACTGG 240 GAATGG 280	ACCGCA 300	GCTGTG 360 GCTGTG 400	GTTTGG 420 GTTTGG 460	AACAGC 480 516	ATTACA 540 ATCACA 574	ATTTAC 600 ATTTAT 634	rccacr 660 acrgcr 694	AGTAAT 720 	AGCAGC 780 AGTAGT 814	3GTTCC 840 3GTTCC 874	GAGCC 900	GCTCCA 960 GCTCCA 994	CGGTG 1020 CAGTT 1054	TGTAC 1080 TGTAT 1114	AGCAA 1140
arcactaagcacrcgrgrgragcacrtrr	GGTAGGCAATGCTGTGGTCATCTTA 	TAATTATTTTTTTTTAATTTGGCT 	TCTGTACATCCCTCACGTGTTGTT7 TTTGTACATCCCTCACACGCTGTTC	GCTCATTACTGACTATCTTTTGTGC 	CGATCGATACCAGTCAGTTTCAAA1 	GAAGATTGTTGCTCAAATGGTGGCT 	GATTCTGGCTTCAGATTCTTGGAAG 	IGTTACAGAGTGGTACATCCTCACC 	CICTGIGGCTTATTTCAAIGTACAG 	raggtgccctagccatgctggattc 	CAGAGCTGGGGTGGCTTGCAGGACA 	ICACTCAGAAAGTCCTCGAAGAAAG 	DAGCAGTATCACTGCCTTCAAAGTG 	CCAAAGGGAGTACGCAGAGCTTCTC CAAAGGGAACATGTTGAACTGCTT	rctgaggetttttgecatttgetgg 	TACCCCAGAACGGAACGCCCCAAA 	STICAATICGITIGITAAICCCTIT 	TTCTGGAAGATACTTTGTGTGACA
	TTAAIGICTICAITIGCTAIAAAGGIAAGGAAIGCIGGGICAICTIAGCCTIT 	GTGGTGGACAGAAACCTTAGACATCGAAGTAATTATTTTTTTT	GACTICCICGIGGGITIGAITICCAITCCICTGIACAICCCICACGIGITGITIAACIGG	AAITITGGAAGTGGAAITCIGCAIGITITGGCTCAITACIGACIAICITIGIGCACGGCACACACACACACACACACACACACACACAC	TCTGTCTACAATATTGTCCTCATTAGCTACGATGGATACCAGTCAGT	TCTPATAGGGCTCAACACTGGCAICATGAAGATTGTTGCTCAAATGGTGGTGCTGTTTGG 	ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 	acgaacacaaaggactgtgagcctggctttgttacagagtggtacatcctcaccattaca tgaaggtagtgaatgtgaacctggatttttttggaatggtacatccttgccatcaca	ATGCTCTTGGAATTCCTGCTTCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC	TGGAGCCTGTGGAAGCGTAGGGTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT	ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGGTGGGGTGGCTTGCAGGACAAGTAAT	CCTGGALTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAAGA	ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC 	TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC 	AGGAAGCTAGCCAGGTCACTGGCCATCCTTGTGAGGGCTTTTGCCATTTGCTGGGGCTCCA 	TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 	TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 	CCTTTGTGTCACAGGGGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
 41 ATGCC	61 TTAAT 	121 GTGGT 161 GTGGT	181 GACTT 221 GACTT	241 AATTT 281 GATTT	301 TCTGT 341 TCTGT	361 TCTTA 401 TCTTA	421 ATACT 461 GTGCT	481 ACGAA 517TGA	541 ATGCT	601 TGGAG 635 TGGAG	661 ACCTC 695 GTCTC	721 CCTGG 755 TCTGC	781 ATCCTC 815 CTCATC	841 TTCTG(875 TTCTC(901 AGGAAC 935 AGGAGI	961 TACTG7 995 TATTC7	1021 TGGTAC 1055 TGGTAI	1081 CCTTTC

20 de 20 de

oy Oy

δ

1115 CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAAGCAA 1174 q δy qq

Search completed: October 1, 2004, 12:53:50 Job time : 4891 secs

DP OX

92 93 94 95

8 6 8

Ωp à qq δy Н

Page

```
5.1.6
Compugen Ltd.
GenCore version
Copyright (c) 1993 - 2004
```

OM nucleic - nucleic search, using sw model

1, 2004, 10:03:29; Search time 557 Seconds (without alignments) 8969.266 Million cell updates/sec October Run on:

US-10-626-445-5 1176 Title: Perfect score:

1 atgtcggagtctaacagtac.....accagtcagtatcttcttga 1176 IDENTITY NUC Scoring table: Sequence:

3373863 seqs, 2124099041 residues Searched:

Gapop 10.0 , Gapext 1.0

6747726 Total number of hits satisfying chosen parameters:

Minimum DB seg length: 0 Maximum DB seg length: 200000000

Post-processing:

Minimum Match 0% Maximum Match 100% Listing first 45 summaries

N_Geneseq_29Jan04:* Database

geneseqn2001bs:* geneseqn2003bs:* geneseqn2001as:* geneseqn2003as:* geneseqn2003cs:* geneseqn1980s:* geneseqn1990s:* geneseqn2000s:* geneseqn2002s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqn2004s:*

Description	Aai 70981 Mouse his	Aa1/0982 kat nista Aaa46023 Human G p	Human	Aat83203 Human GPC Aah24007 Human G D	Human	Abq78739 Nucleotid	Aai70980 Human his	Abs57063 Human cDN	Aca93262 Human cDN	Abk12959 DNA seque	Aba02496 Human G p	Aah47911 Human G p	Abz42573 Human his	Aad55126 Human H4	Aai66009 Human GPR	Aas98078 Human DNA	Aad55125 Human H4	Aai67750 Human his	Aai70983 Guinea pi	Aad55124 Human H4
SUMMARIES DB ID	6 AAI70981	b AA1/0982 3 AAA46023	3 AAD01124	4 AAF83203 5 AAH24007		6 ABQ78739		7 ABS57063	7 ACA93262	6 ABK12959	6 ABA02496	4 AAH47911	7 ABZ42573	8 AAD55126	4 AAI66009	6 AAS98078	8 AAD55125	6 AAI67750	6 AAI70983	8 AAD55124
Length	1176			1173	1173	1173	1173	1173	1173	1266	1300	1312	3689	1170	1227	1265	1265	1173	1170	1166
% Query Match	100.0	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	58.3	58.2	58.2	58.2	58.1	52.1	43.0
Score	111	958.4	686.6	686.6	9.989	9.989	9.989	9.989	9.989	9.989	9.989	9.989	9.989	685.2	685	685	685	683.4	613	505.8
Result No.	1	7 m	4 1	φ _Σ	7	80	Q	10	11	12	13	14	15	16	17	18	19	20	21	22

Aad37667 Human G-p	Aas98150 Human DNA	Aax84570 G-protein	Aaa70639 Rat G-pro	Aax84571 G-protein	Aaa70640 Rat G-pro	Aal59979 Human H3	Aal59985 Human H3	Abz82337 Mouse his	Aah44575 Rat musca	Aaa70638 Rat G-pro	Abt42301 Toxicity	Aax59168 Rat G pro	Aah44574 Rat musca	Abx11853 Rat cDNA	Aah47749 Human his	Aal59977 Human H3	Aal59976 Human wil	Aah26798 Human his	Aah44573 Human mus	Aax02886 Human mAC	Aaa09062 Human his
AAD37667	AAS98150	AAX84570	AAA70639	AAX84571	AAA70640	AAL59979	AAL59985	ABZ82337	AAH44575	AAA70638	ABT42301	AAX59168	AAH44574	ABX11853	AAH47749	AAL59977	AAL59976	AAH26798	AAH44573	AAX02886	AAA09062
9	9	7	3	7	r	œ	æ	7	C	٣	7	0	~	7	4	œ	œ	4	7	7	m
1326	540	1239	1239	2700	2700	1311	1203	18105	1338	1953	2761	3244	3244	3244	1098	1161	1401	1023	1334	1335	1335
23.1	22.9	14.7	14.7	14.7	14.7	14.6	14.3	12.4	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.1	12.1	11.9	11.9	11.9	11.9
271.6	269	172.8	172.8	172.8	172.8	171.6	168.6	145.4	143.2	143.2	143.2	143.2	143.2	143.2	142	142	142	140.4	140.4	140.4	140.4
24	c 52	26	27	28	29	30	31	32	33	34	35	36	3.7	38	39	40	41	42	43	44	45

ALIGNMENTS

AAI70981 standard; cDNA; 1176 BP. RESULT 1 AAI 70981

AAI70981;

(first entry) 18-MAR-2002

Mouse histamine H4 receptor cDNA.

Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; ss.

Mus musculus.

WO200192485-A1.

06-DEC-2001.

31-MAY-2000; 2000US-0208260P

22-FEB-2001; 2001WO-US005914.

(ORTH) ORTHO-MCNEIL PHARM INC.

ΰ Liu Lovenberg T,

WPI; 2002-114339/15.

P-PSDB; AAM50565.

New mammalian histamine H4 receptor proteins and polynucleotides encoding the proteins, useful in gene therapy for treating diseases where it is beneficial to elevate mammalian histamine H4 receptor activity.

Claim 4; Fig 5A; 92pp; English.

The present sequence is that of a cDNA clone encoding a murine histamine receptor of the H4 subtype. The CDNA was isolated from a mouse spleen cDNA library. It shows 72.8% homology to the human H4 receptor coding region. The invention provides mammalian (human, mouse, rat and gininea pig) histamine H4 receptor nucleic acid molecules (see AAI70980-83) and polypeptides (see AAM50564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of

```
g
                                                      à
                                                                        d
                                                                                                 à
                                                                                                                   셤
                                                                                                                                            ò
                                                                                                                                                                d
                                                                                                                                                                                     à
                                                                                                                                                                                                         g
                                                                                                                                 ö
                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                 180
                        þe
                                                                                                                                                                                                 120
                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                       09
                                                                                                                                                                           9
diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the mammalian histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and cerebrovascular disoffers, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                           TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                  GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                 <u>AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA</u>
                                                                                                                                                                                                                                                                                                                                                                                             ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCTGGTGTCCTTAAAGAACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGICGGAGICTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                          1 Argredgagreraacagracrescarcrascaccaccagerecreagrescerragearrr
                                                                                                                                                                                                 TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                          GACTICCICGIGGGITTIGATITCCATICCICTGIACAICCCICCACGIGITGITTAACTGG
                                                                                                                                                                                                                                                                                                                                                   AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACGAACACAAAAGGACTGTGAGCCTGGCTTTACTAAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGAGCCTGTGGAAGCGTAGGGTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCTCTTCCAGTGCTTCAGGACACTTACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccredarreaaddarreacrecrecrecrecreacaaagrecregaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                  Gaps
                                                                                                                                 ;
0
                                                                                                            Length 1176;
                                                                                      Sequence 1176 BP; 263 A; 281 C; 269 G; 363 T; 0 U; 0 Other;
                                                                                                                                 Indels
                                                                                                           DB 6;
                                                                                                                                0
                                                                                                          Score 1176; ]
Pred. No. 0;
; Mismatches
                                                                                                                                0;
                                                                                                           100.0%;
                                                                                                                                Conservative
                                                                                                                    Similarity
                                                                                                                    Best Local Simi
Matches 1176;
                                                                                                                                                                                                19
                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
  $$$$$$$$$$$$$$
                                                                                                                                                                        g
                                                                                                                                                                                                ð
                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                   ДD
                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                        \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
```

The present sequence is that of a cDNA clone encoding a rat histamine receptor of the H4 subtype. The cDNA was isolated from a rat spleen cDNA library. It shows 72.5% homology to the human H4 receptor coding region. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AAM170880-83) and polypeptides (see AAM5054-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the mammalian histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin 1.8 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTAATCCTTTCTGTAC CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGGAAGATACTTTGTGTGACAAAGCAA 901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC New mammalian histamine H4 receptor proteins and polynucleotides eno the proteins, useful in gene therapy for treating diseases where it beneficial to elevate mammalian histamine H4 receptor activity. Histamine H4 receptor; rat; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; 1176 CCAGCGCTGTCACAGAACCAGTCAGTATCTTCTTGA 1141 ccadcecrercacada accadreagrarerrea BP. Rat histamine H4 receptor cDNA Claim 4; Fig 5C; 92pp; English. AAI70982 standard; cDNA; 1176 22-FEB-2001; 2001WO-US005914. 31-MAY-2000; 2000US-0208260P. diagnosis; gene therapy; ss (first entry) (ORTH) ORTHO-MCNEIL Liu C; 2002-114339/15. P-PSDB; AAM50566. WO200192485-A1. Rattus rattus. Lovenberg T, 06-DEC-2001 1021 1081 1141 AAI70982; 1021 961 1081 RESULT 2 AAI70982 ID AAI70

Oy 961 TACTGTCTGTTCACAATTGTCCTTTCA	RESULT 3 AAA46023 ID AAA46023 standard; cDNA; 1173 BP. XX AC AAA46023; XX DT 22-AUG-2000 (first entry) XX DE Human G protein coupled receptor hRU XX KW Human; G protein coupled receptor; G KW identification; agonist; screening; XX	MO200022131-A2 20-AER-2000. 13-OCT-1999; 13-OCT-1998; 12-NOV-1998; 27-NOV-1998; 27-NOV-1998; 27-NOV-1999; 16-FEB-1999; 16-FEB-1999; 12-MAR-1999; 12-MAR-1999; 12-MAR-1999;	PR 12-MAR-1999; 99US-0123948P. PR 12-MAR-1999; 99US-0123948P. PR 28-MAY-1999; 99US-0123943P. PR 28-MAY-1999; 99US-0136436P. PR 28-MAY-1999; 99US-0136437P. PR 28-MAY-1999; 99US-0137127P. PR 28-MAY-1999; 99US-0137127P. PR 28-MAY-1999; 99US-0137131P. PR 29-UNA-1999; 99US-0137131P. PR 27-AUG-1999; 99US-0137131P. PR 29-SEP-1999; 99US-015114P. PR 29-SEP-1999; 99US-015114P. PR 29-SEP-1999; 99US-015633P. PR 29-SEP-1999; 99US-015633P. PR 29-SEP-1999; 99US-015633P. PR 29-SEP-1999; 99US-0157281P. PR 10-OCT-1999; 99US-0157281P. PR 01-OCT-1999; 99US-0157281P. PR 01-OCT-1999; 99US-0157281P. PR 12-OCT-1999; 99US-0157294P. PR 12-OCT-1999; 99US-014766. PR 12-OCT-1999; 99US-014764.
CC dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, XX XX XX XX XX Squence 1176 BP; 260 A; 293 C; 270 G; 353 T; 0 U; 0 Other; Query Match Best Local Similarity 88.4%; Pred. No. 1.2e-289; Matches 1040; Conservative 0; Mismatches 136; Indels 0; Gaps 0; QY Argrogagrorrancagracragocarcragocarcragocarrr 60 Db 1 Argrogagrorrancagracragocarcragocarcragocarrr 60 CO Argrogagrorrancagracragocarcragocarcragocarcragocarrr 60 CO Argrogagrorrancagracragocarcragocarcragocarcragocarrr 60 CO Argrogagrorrancagracragocarcragocarcragocarrr 60 CO Argrogagrorrancagracragocarcragocarcragocarcragocarcragocarrr 60 CO Argrogagrorrancagracragocarcragoc	121 GTGGTGGACAGAAACCTTAGACATCGAAGTAATTATTTTTTTT	OY 361 CTTATAGGGCTCAACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG 420	601 TGGAGCCTGTGGAAGCGTAGGGCCTCAGTAGGTGCCCTAGCCATGCTCACT [

```
CAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                      AATGGTTCAATTCGTTTATTAATCCCTTTCTGTAC 1080
                                                                              GPCR; transmembrane receptor; therapeutic; pharmaceutical; mutant;
                                                                                                                                                                                                                                                          RUP7 encoding cDNA SEQ ID NO:13.
```

834 900 894 096

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccarrigidicacaagcgcrircaaaaggcrircirgaaarrarrirgraraaaaagcaa 1134
GICTCTTCCAACAICTGTGGACACTCATTCAGAGGTAGATATCTTCAAGGAGATCTTT 714
                                                                                                                                       TCTGCATCGACAGAAGTTCCTGCATCCTTTCATTCAGAGAGACAGAGAAAAGAGTAGT 774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G protein-coupled receptor; GPCR; hRUP7; drug screening; receptor; signal cascade; ss.
                                                                                   CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rarrerererekahrererrrerrrarrarrerekeenekaerekerkahrekerr
                                                                                                                                                                                                ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                         TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                     AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IGGIATAGAATIGCATITITGCCTICAGIGGITCAATICCTTIGICAATCCTCTTTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                        TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Aggagartrágccaagtcachggccarrchcrcrtraggggrtrírhgcrgririgchgggchgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Human orphan G protein-coupled receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human orphan G protein-coupled receptor hRUP7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
1. .1173
/*tag= a
/product= "hRUP7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               990S-0123946P.
990S-0123949P.
990S-0136437P.
990S-0136437P.
990S-0136567P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0109213P.
99US-0120416P.
99US-0121852P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99WO-US023687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; orphan G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200031258-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16-FEB-1999;
26-FEB-1999;
12-MAR-1999;
12-MAR-1999;
28-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-MAY-1999;
28-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1135
                                                                                                                                          715
                                                                                                                                                                                                                                                 775
                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAD01124;
                               655
                                                                                   721
                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                              835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAD01124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD01124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                               셤
                                                                                à
                                                                                                                                 g
                                                                                                                                                                                                à
                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                               The present invention describes transmembrane receptors, preferably human grotein coupled receptors (GPCR), for which the endogenous ligand is unknown (orphan GPCR receptors). More specifically the present invention relates to non-endogenous, constitutively activated versions of a human GPCR. These non-endogenous human GPCRs can be useful for the direct identification of candidate compounds as receptors agonists, inverse agonists or partial agonists for use as pharmaccutical agents. AAA46017 to AAA46126 and AAB02825 to AAB02859 represent sequences used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT 720
                                                                                                                                                                                                Non-endogenous, human G protein-coupled receptors for screening receptor, inverse or partial agonists useful as therapeutic agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rchdrararacarrencercarcaecrarearcearacerercaercrararecrere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Argechagaraciaarageacaarcaarriaarcacraaccacregraracrirragearrir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIAATGICTICATITIGCCTTIGCTATAATGGIAGGCAATGCTGTGGTCATCTIAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GIGGIGGACAGAAACCITAGACAICGAAGIAAIIAITITITITITITIGGCIAITICI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTICCICGIGGGITIGAITICCATICCICIGIACAICCCICACGIGIGITIAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTICITICIGGGIGIGAICICCATICCITIGIACATCCCICACACGCIGITCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGTCTACAATAITGTCCTCATTAGCTACGATCGATACCAGTCAGTTTCAAATGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rctratagaactcaacaracregegretrgaagarretracregaggregegegetree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gracicicricinacida Arcacca Arcarterrera Gracici de Gracia 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --TGAAGGTAGTGAATGTGAACCTGGATTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGACCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                regagecregregaagegrearcrearagragereceaagecarceregacreger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                               H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6
                               Dang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                               정,
                               Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 686.6; DB 3;
Pred. No. 2.4e-204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches 284;
                            Lehmann-Bruinsma K, Chalmers DT, Iaw CW, Lin I, Lowitz K, White C;
                                                                                                                                                                                                                                                                              Example 1; Page 88-89; 187pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                      Liaw CW, Lin I,
                                                                                                             WPI; 2000-317986/27.
P-PSDB: AAB02831.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      199
                               DP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                               Behan DP
Gore M,
```

g $\stackrel{\sim}{\circ}$ g δ Db q à 엄 δ qq

δλ

엄 $\stackrel{>}{o}$ 셤 δ qq à 엄

 δ

ò

099

654

720

780

774

840 834 900 096

894

```
IGGIACAGCATIGCCTICIGGCIGCAAIGGIICAAITCGITIGIIAAICCCITICIGIAC 1080
361 TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG 420
                                                           421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antiinflammatory; vasotropic; antidiabetic; anorectic; cytostatic; human; osteopathic; neuroprotective; nootropic; dermatological; gynecological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G-protein coupled receptor; GPCR; PFI-013; antiallergic; antiasthmatic;
                                                                                                                                                                                                                                --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                  541 AIGCTCTIGGAATICCTGCTTCCTGTCAICTCTGTGGCTTAITTTCAAIGTACAGAITTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               775 CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       trétecebatébagatretataderétrébecébaddabandardaderetradadeé
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           955 IATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1015 regraradaarrecarrrrescrircasresrrcaarrecrirercarrecrerrerar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1075 CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTTGTATAAAAAAGCAA
                                                                                                                          GTGCTGGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGA----
                                                                                                                                                                                     181 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                              535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        regagecreregaagegrearerereagragereceaagecarecregaereer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655 GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1135 cereracearcacacacacacacacacacacacacarcarcara 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human GPCR-like polypeptide, PFI-013 encoding cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transduction; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAF83203 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAF83203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAF83203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                        ò
                                                                                                                g
                                                                                                                                                                              \delta
                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                         \overset{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is a cDNA encoding hRUP7, an endogenous human orphan G protein-coupled receptor (GPCR). The full length hRUP7 cDNA was cloned by RT-PCR using human peripheral leucocyte cDNA as template. The orphan GPCR of the invention, like all GPCRs has seven transmembrane alpha helices with an extracellular N-terminus and an intracellular C-terminus. However, no endogenous ligands has yet been identified for the proteins of the invention. The orphan GPCRs may be used in the identification of their endogenous ligands, and to screen potential GPCR agonists and antagonists for use as pharmaceutical agents. The proteins may also be used in the study of GPCR-mediated signalling cascades, and to elucidate their precise role in normal and diseased human conditions. Nucleic acid encoding human orphan GPCRs may be used for tissue localisation enalysis to provide information about their function in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel human orphan G protein-coupled receptors and the encoding cDNAs for use in the identification of G protein-coupled receptor agonists.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GIGGIGGACAGAAACCITAGACAICGAAGTAAITAITITITITITITITIGGCIAITITCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATTITIGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 referentaracarrefecteareactareareareareareareareareareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 TCTTATAGGGCTCAACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Argccagaracraaragcacaarcaarraarcacraagcacrcgrgrracrraagcarr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTICCICGIGGGITTGAITTICCAITCCICTGIACAICCCICCACGIGITTAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 GACTICITIGIGGGIGIGATCICCATICCTITIGIACATCCCICACACGCIGITCGAAIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTATGTCCTTAGTAGCTTTTGCTAAATGCTAGGAAATGCTTTGGTCATTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 Gricigica ca a a a contra cancida de la contrationa del contrationa del contrationa de la contrationa del contrationa del contrationa de la contrationa de la contrationa del contrationa de la contrationa del contrationa del contrationa del contrationa de la contrationa del contrationa del contrationa del contrationa de la contrationa del cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 686.6; DB 3
Pred. No. 2.4e-204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lin I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 25; Page 59; 102pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nealthy and pathological states
                99US-0141448P.
99US-015653P.
99US-0156634P.
99US-0156634P.
99US-015663P.
99US-0157280P.
                                                                                                                                                                                                                                       99US-0157282P.
99US-0157293P.
99US-0157294P.
99US-00416760.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dang HT, Liaw CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    58.4%;
                                                                                                                                                                                                                                                                                                                                                                           99US-00417044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                         PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000-400068/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
nes 886; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; AAY71297
                                                                                                                                                                                                                                                                                                                                                                                                                                      ARENA
                                                                                                            29-SEP-1999;
29-SEP-1999;
01-OCT-1999;
                                                                                                                                                                                                                                                                    01-0CT-1999;
01-0CT-1999;
12-0CT-1999;
12-0CT-1999;
                   29-JUN-1999;
29-SEP-1999;
29-SEP-1999;
                                                                                                                                                                                                         01-0CT-1999
01-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                      (AREN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
```

B ò qq

δ g δ qq à 엄

 δ

a

ò

420 420 476 540 534 600 594 99 654 720 714 780

```
CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCAACGCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rarrerereredadariereerrecarritarrecreaceacagereeraareagir 1014
                                                                                                                                                                ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    regratagaarrecarrrigecrircagregricaarrecrirgrearrecrerrrigrar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rcrecarcaacaagrrccrecarccrrtcarrcagagacagagaaaagagragr
                                                      rengrararadoringrecicareacerargarearidarecrereaciereaaridere
                                                                                                                            retraragaacteaacaractegggretrgaagartgractergregregregering
                                                                                                                                                                                                                                                                                                            ATGCTCTTGGAATTCCTGCTTTCTTCTTCTTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCICITCCAGIGCTICAGGACACTIACACAGGGCTGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tricitocoaarcadarroridraderoritoaeedaadegaacardradaactrocitadadeee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                  421 GIGCIGGCCIICTIAGIGAAIGGCCAAIGAITCIAGITICAGAGICTIGGAAGGA----
                                                                                                                                                                                                                                                                        -- TGAAGGTAGTGAATGTGAACCTGGATTTTTTTTTGGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                rcarrcrrsgaarrcsrgarcccastcarcrrasrcscrratrraracargaararrar
                                                                                                                                                                                                                                                                                                                                                                                    TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                         ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                          TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                      ACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AXOR35; human; G protein-coupled receptor; 7TM receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cercracearcacacacacregicaciarierrea 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human G protein-coupled receptor AXOR35 cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; cDNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1135
                                                                                                                                                                  421
                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                          477
                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                  535
                                                                                                                                                                                                                                                                                                                                                                                                                          595
                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAH24007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAH24007;
                                                        301
                                                                                            361
                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAH24007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                    g
                                                                                          8
                                                                                                                         g
                                                                                                                                                            à
                                                                                                                                                                                                  q
                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              M X B X B X B X B X B
                      충
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This cDNA of NCIMB 41073 encodes a human G-protein coupled receptor (GPCR)-like polypeptide, designated PFI-013. The PFI-013 protein can be expressed by standard recombinant methodology. Antibodies and modulators of PFI-013 are useful in the manufacture of a medicament for treating allergic disorder, including extrinsic asthma, immunological disorders, such as intrinsic asthma, vasculitic granulomatous disease, interstitial and other pulmonary disease, including chronic obstructive pulmonary disease (COPD), infectious, inflammatory disease, such as inflammatory bowel disease and neoplastic and myeloproliferative diseases. They are also useful for treating obesity, diabetes, metabolic, neurological medicine, inflammation, cancer, tissue repair, dermatology, photoageing, skin pigmentation, cancer, tissue repair, dermatology, photoageing, skin pigmentation, cancer, cardiovascular, gastrointestinal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   diseases, allergy and respiratory disease, sensory organ disorders, sleep disorders and hair loss. The PFT-013 protein and nucleic acid are useful in the diagnosis and treatment of the above conditions and also for screening drug candidates for the treatment of diseases associated with signal transduction. The antibodies are also useful for enrichment of eosinophils from mammalian, especially human blood and for detecting the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 GATTTTGGAAAGGAAACTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTTGTGCACCGCA 300
                                                                                                                                                                                                                                                                                                                                                                                    New G-protein coupled receptor-like polypeptide, polynucleotide for screening drug candidates for treating diseases associated with signal transduction e.g. allergic, inflammatory, pulmonary, neoplastic diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eacriteringiesersisarerecarrecirrisiaearecereaesereireaaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u> Argecagaractaaragcacaarcaartrarcactaagcactcgrgrractrragcartr</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTICCICGIGGGITTGAITTICCATICCICTGIACAICCCICACGIGITGITTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4; Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 / Match 58.4%; Score 686.6; DB 4; Local Similarity 75.1%; Fred. No. 2.4e-204; nes 886; Conservative 0; Mismatches 284;
1. .1173
/*tag= a
/product= "PFI-013"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              66pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein in biological samples
                                                                                                                                                   2000EP-00309364
                                                                                                                                                                                     99GB-00025641
2000GB-00009973
                                                                                                                                                                                                                                                                                             O'reilly MA;
                                                                                                                                                                                                                                        ) PFIZER LTD.
) PFIZER INC.
                                                                                                                                                                                                                                                                                                                                   2001-309854/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 43;
                                                                                                                                                                                                                                                                                                                                                      P-PSDB; AAB62445.
                                                                                                                                                                                     29-OCT-1999;
20-APR-2000;
                                                                                                                                                   24-OCT-2000;
                                                                             EP1096009-A1
                                                                                                               02-MAY-2001
                                                                                                                                                                                                                                                                                                 m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                        (PFIZ
(PFIZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Пb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       П
```

histamine H3 receptor homologue; infection; viral; bacterial; fungal; protozoan; HIV-1; HIV-2; pain; cancer; diabetes; obesity; anorexia; bulimia; osteoporosis; asthma; allergy; urinary retention; acute heart failure; hypotension; hypertension; angina pectoris; myocardial infarction; stroke; ulcer; migraine; vomiting; psychotic disorder; neurological disorder; anxiety; schizophrenia; manic depression; bipolar disorder; depression; delirium; dementia; severe mental retardation; dyskinesia; Parkinson's disease; Huntington's disease; Gilles de la Tourette's syndrome; lymphocyte; macrophage; eosinophil; neutrophil; function modulation; autoimmune disorder; pulmonary disorder; gene therapy; vaccine; drug screening; signal transduction; transgenic animal; drug discovery; 'note= "G protein-coupled receptor" Location/Qualifiers (SMIK) SMITHKLINE BEECHAM CORP. (SMIK) SMITHKLINE BEECHAM PLC. 99US-00431898. 2000US-00497790. 26-OCT-2000; 2000WO-US029461 product= 1. .1173 /*tag= a Bergsma DJ, WO200133221-A1 02-NOV-1999; 03-FEB-2000; Homo sapiens 10-MAY-2001 Aubart KM,

"Human AXOR35"

Novel G-protein coupled receptor polypeptide and polynucleotide for treating cancer, autoimmune, pulmonary, cardiovascular and neurological disorders and for identifying modulators useful for treating asthma. ij Fitzgerald LR, Graybill TL, Zhu Y; Michalovich D, Morrow DM, WPI; 2001-316464/33 P-PSDB; AAB73622

Claim 2; Page 49-50; 54pp; English

pectoris; myocardial infarction; stroke, ulcers; migraine; vomiting, psychotic and neurological disorders such as anxiety, schizophrenia, manic depression, depression, delirium, dementia, and severe mental retardation, and dyskinesias, such as parkinson's disease, Huntington's disease or Gilles de la Tourette's syndrome. AXOR35 proteins and nucleotides are useful as vaccines, and AXOR35 proteins, nucleotides and antibodies may be used in screening compounds for their ability to modulate AXOR35 activity or expression. Such AXOR35 modulators are particularly useful for treating asthma, and inhibiting or promoting the function of lymphocytes, macrophages, eosinophils or neutrophils in asthmatic lung. AXOR35 proteins, nucleotides and antibodies are also useful for diagnosing or determining susceptibility of an individual to a disease via the detection of abnormal levels of protein or mRNA, or via the detection of mutations in the corresponding gene. AXOR35 proteins are The invention relates to the human G protein-coupled receptor AXOR35 (AAB73621), to CDNA encoding AXOR35 (AAB74006), and to AXOR35 fragments and variants. Like all G protein-coupled receptors, AXOR35 has 7 putative transmembrane domains and is involved in signal transduction. AXOR35 has homology and structural similarity with G protein-coupled receptors such as the human histamine H3 receptor. The invention also relates to expression vectors and host cells comprising AXOR35 DNA, to recombinant expression of AXOR35, and to an AXOR35-specific antibody. AXOR35 proteins and nucleotides may be used to treat a wide variety of disorders including bacterial, fungal, protozoal and viral infections, particularly HIV-1 or HIV-2 infections; pain; cancers; benign prostatic hypertrophy; diabetes; obesity; anorexia, builmia; osteoporosis; asthma; allergies; urinary retention; acute heart failure; hypotension; hypertension; angina

also useful for inducing an immunological response in a mammal against the above diseases, and for antibody production. AXOR35 nuclectides are also useful as diagnostic reagents, in chronosome localisation and tissue expression studies, and for producing transgenic animals useful in drug discovery. AXOR35-specific antibodies are useful for purifying the AXOR35 protein or fragments thereof, and are also useful for treating conditions sescoiated with the expression of the AXOR35 protein. The present sequence represents cDNA encoding human AXOR35 180 240 300 840 120 120 180 240 300 360 360 420 420 480 476 540 534 009 594 099 654 720 714 780 774 900 09 9 121 GIGGIGGACAGAAACCITAGACAICGAAGIAATIAITITITITITITATITIGGCIAITICI GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTTAACTGG reretatatatatacatrictecerearearearearearacetereareareareare 421 GFGCTGGCCTTCTTAGTGATGGCCAATGATTTCTAGTTTCAGAGTCTTGGAAGGA---477 --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA 541 AIGCICTIGGAATICCIGCTICCIGICATCICIGIGGCTIAITICAAIGIACAGATITAC TGGAGCCTGTGGAAGCGTAGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT 661 ACCICITCCAGTGCTTCAGGACACTTACACAGGGCTGGGGTGGCTTGCAGGACAAGTAAT ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGAGAGTACGCAGAGCTTCTCAGAGGC 1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT 1 Argccagaracrantagcacarcantriarcacrasscacrcgrgrracritagcarrr TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGGTCATCTTAGCCTTT AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA 241 GATITIGGAAAGGAAATCIGIGIATITIGGCICACIACIGACIAICIGTATGTACAGCA TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG rerraradaaereaacaracredddarerrdaadarrdriaerererdaeddecerrieg 421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 481 ACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT Greterrecaacarergadacaerearreagageragaerarerreaggaarerer rrrargrectragrascrrrrscraraarscrassaarscrrrssrcarrrascrrr Gaps 6 Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other; Indels 58.4%; Score 686.6; DB 5; 75.1%; Pred. No. 2.4e-204; 0; Mismatches 284; Similarity 75.1 86; Conservative Matches 886; 61 61 181 241 301 361 535 715 781 775 301 361 601 595 655 721 841 Query Match Local 8888888888 ò d à 엄 δ 셤 ò d à g à qq à dd à g δ Пр ð g ð g ð q ð g à g à

Mon

```
361
                                                                                                                                                                        Н
                                                                                                                                                                                         61
                                                                                                                                                                                                            61
                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 775
8×366666666668
                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                    q
                                                                                                                                                                                                      g
                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                     8
                                                                                                                                                                                        ò
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                            1140
                                                                                                     CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTTGTATAAAAAAGCAA 1134
                                                                                                                                                                                                                                                                                                 human, histamine receptor; gene; ds; chromosome 18; anti-inflammatory; anti-asthmatic; anti-allergic; dermatological; cerebroprotective; stroke; anti-migrathe; cardiant; anti-rhumatic; anti-architic; antipsoriatic; neuroprotective; inflammation; asthma; allergy; atopic dermatitis; myocardial infarction; migraine; chronic obstructive pulmonary disease; remanation arthritis; multiple sclerosis; inflammatory bowel disease;
894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This sequence represents the open reading frame for a human histamine receptor (HR) designated SP9144. The sequence was isolated by searching databases with the sequence of known G-coupled protein receptor (GCPR).
TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                               TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                     raticicignicacaaridiccirricarritariccicagcaacaggicciaaarcagir
                                                                                         TGGTACAGCATTGCCTTCTGGCTGCATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                  AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                           CCTTTGTGTCTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rt of human histamine receptor for treating-histamine related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Umland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ĭ,
                                                                                                                                                               CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Morse
                                                                                                                                                                         CTCTACCATCACAACACAGTCGGTCAGTATCTTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                       "Histamine receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΕJ,
                                                                                                                                                                                                                                                                                  histamine receptor coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      part
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Monsma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     encoding antigenic paing antibodies, e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-28; 19pp; English.
                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                              ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TM,
                                                                                                                                                                                                                              CDNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-00414010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00414010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Laz
                                                                                                                                                                                                                                                                                                                                                                                                   1. .1173
/*tag= a
/product= |
                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hedrick JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (SCHE ) SCHERING CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for preparing
                                                                                                                                                                                                                                                                                                                                                         receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-442063/47.
P-PSDB; ABO98629.
                                                                                                                                                                                                                              ABZ80663 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Col
                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                        US6204017-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-OCT-1999;
                                                                                                                                                                                                                                                                 13-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-MAR-2001
                                                                                                                                                                                                                                                                                                                                                         psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Behan JX,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disorders
                                                                                                                                            1075
                                                                                                                                                              1141
                                                                       955
                                                                                         1021
                                                                                                          1015
                                                                                                                           1081
                                                                                                                                                                                1135
                                    895
                  901
                                                      196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         s;
                                                                                                                                                                                                                                                                                                                                                                          Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Wang
                                                                                                                                                                                                           RESULT 7
ABZ80663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New
                                                                                                   g
                                                                                                                                        g
                                                                                                                                                                           Db
                                                                                                                                                                                                                             g
                                                                9
                                                                                   à
                                                                                                                          \delta
                                                                                                                                                             8
셤
                 ð
                                              ð
```

```
2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                    antibodies (Ab). These Ab are used to purify HR by immunoaffinity chromatography, in immunoassay of histamine receptor, to identify cDNA clones that express the receptor, as antagonist to block binding of histamine (for treating any histamine-associated disorder) and to generate anti-idiotypic antibodies. Agonists and antagonists of the HR protein can be used in the treatment of e.g. inflammation, asthma, allergy, atopic dermatitis, stroke, wyocardial infarction, migraine, chronic obstructive pulmonary disease, rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease and psoriasis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACTICITITGIGGGIGIGATCICCATTCCTTTGIACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCATGTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Argecagaracranacaercaerrarcaeraecaercererraerraecarra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rrrargrectrargeractraraargeraggaaargerrrggrearrragerrrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTTCCTCGTGGGTTTGATTTCCATTCCTGTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATITIGGAAGIGGAAICIGCAIGITITIGGCICATTACIGACIAICITITGIGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGTCTACAATATTGTCCTCATTAGCTACGATCGATACCAGTTTACAAATGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rcitatadaactcaacatacrososorcitoaagaristractcroarssroscorritos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      grecrédecrirenagicalardececalidationes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 ACGAACACAAAGGACTGTGAGCCTTGGTTACAGAGTGGTACATCCTCACATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 AIGCICTIGGAAITCCIGCTICCIGICAICTCIGIGGCITAITICAAIGIACAGAITIAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        resascereresascerearererererasinascereceanseceresareser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 AIGICGGAGICTAACAGIACTGGCAICTIGCCACCAGCIGCICAGGICCCCTIGGCATIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCITICCAGIGCTICAGGACACTIACACAGAGCIGGGGIGGCITGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
gene is used for recombinant production of HR and for preparing
                                                                                                                                                                                                                                                                                                                                                                                                               9.
                                                                                                                                                                                                                                                                                                                                                        Length 1173;
                                                                                                                                                                                                                                                                                                       Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                        Score 686.6; DB 6;
Pred. No. 2.4e-204;
); Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                              58.4%;
75.1%;
                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 75.1
Matches 886; Conservative
```

us-10-626-445-5.rng

```
The present sequence encodes a human histamine receptor. The polypeptide is useful for identifying an agonist or antagonist of a mammalian histamine receptor: It is useful as an antigen to elicit the production of antibodies. The histamine receptor polypeptide and polynucleotide are useful in the treatment and management of diseases such as inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infection, migraine, chronic obstructive pulmonary disease (COPP). Theurathritis, multiple solerosis, inflammatory bowel disease and psoriasis. They are also useful for modulating intracellular second messenger pathway activated through histamine receptors (cyclic-AMP, calcium, incsitol phosphate and mitogen activated protein (MAP) kinase), changes in cellular growth rate, secretion of hormones, receptor-stimulated Ca2+mobilization, mitogenic effects, etc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rengianaracanicicercarcacharcarcaracercaechereaangeneng 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAGCAGC 780
     stroke, migraine, rheumatoid arthritis, multiple sclerosis, psoriasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTICCICGIGGGTITGATTTCCATTCCTCTACATCCTCACGTGTTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 GACTICITIGIGGGGGGGATCICCATICCTTIGIACATCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 GATITITIGGAAAGGAAATCIGIGIATITITIGGCICACIACIGACIATCIGITATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                       1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ATGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 TTAATGTCTTCATTTGCCTTTGCTATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 Gregiegacaaaaaccriagacarceaagragriarririrririraacrigeccarcic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Grecrescrictragrandaccardarrerarricadacrireacricadaca----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTTGGAATGGTACATCCTTGCCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541 AIGCTCTIGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           535 TCATICITGGAATICGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rggadecrereggaadenheggerreregragegerragecargeragarrereger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661 ACCICITCCAGIGCITCAGGACACITACACAGAGCIGGGIGGCITGCAGGACAAGIAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655 GICTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٠,
د
                                                                                                                                                                                                                                                                                                                                        Score 686.6; DB 6; Length 1173; Pred. No. 2.4e-204;
                                                                                                                                                                                                                                                                                                     Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches 284;
                                       English
                                                                                                                                                                                                                                                                                                                                      58.4%;
75.1%;
                                    Example 1; Page 15-16; 21pp;
                                                                                                                                                                                                                                                                                                                                                                        886; Conservative
                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                        Matches
     q
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                    1014
                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                    1140
                                                                                                                                   1020
                                                                                                                                                                                                                                   1074
                                                                                                                                                                                                                                                                                                1075 CCATTGTGTGACAAGGGCTTTCAAAAGGCTTTCTTGAAATATTTTGTATAAAAAAGCAA 1134
                                                                     960
                                                                                                    954
                                    894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel mammalian histamine receptor polypeptide useful for identifying agonist or antagonist for treating diseases such as inflammation, asthma,
TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                    TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCCCCCAAATCGGTG
                                                                                                                                                                955 TATTCTCTGTTCACAATTGTCCTTTCATTCTTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                                               TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                              1015 iddiatadaaticcarititdectricagigdiicaaticcriigicaatccrciitigia
                                                                                                                                                                                                                                                                 CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAAGATACTTTGTGTGACAAAGCAA
                                                              901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCAGTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; histamine receptor; receptor; inflammation; asthma; allergy; atopic dermatitis; stroke; myocardial infection; migraine; chronic obstructive pulmonary disease; COPD); rheumatoid arthritis; multiple sclerosis; inflammatory bowel disease; psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Umland SP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  intracellular second messenger pathway; cellular growth rate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Morse KL,
                                                                                                                                                                                                                                                                                                                                 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                1135 CCTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nucleotide seguence of human histamine receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product= "histamine receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Monsma FJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Laz TM,
                                                                                                                                                                                                                                                                                                                                                                                                                                               ABQ78739 standard; DNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-00414010,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001US-00812216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hormone secretion; gene; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Behan JX, Hedrick JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BEHAN J X.
HEDRICK J A.
LAZ T M.
MONSMA F J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MORSE K L.
UMLAND S P.
WANG S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002-673827/72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; ABB78276.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US2002098539-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-DEC-2002
                                                                                                                               196
                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                 1081
 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABQ78739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MONS/)
(MORS/)
(UMLA/)
(WANG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BEHA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HEDR/)
(LAZT/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wang S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Key
                                                                                                                                                                                                                         g
                           셤
                                                              ò
                                                                                           셤
                                                                                                                              à
                                                                                                                                                           П
                                                                                                                                                                                               à
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                            g
```

180 240 240 300 300 360 420

420 480 476 540 534 009 594 099 654 720 714

120 120

09 9

Gaps

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                       TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT 1014
                                                                                                                                                                                                                                                   TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                   CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                            ccarrerereaegecerrreaaagecrrrereaaarrerrreraraaaageaa 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              encoding
                                        840
                                                                                            900
                                                                                                                                              096
                                                                  834
                                                                                                                    894
                                                                                                                                                                       954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence is that of cDNA clone pH4R encoding a human histamine receptor of the H4 subtype. The cDNA was isolated from a bone marrow cDNA library. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see
                                                                                                                                                                                                                                                                    rrcrcccaarcagarrcrgradcrcrrcaccaaagggaacargragactragagcc
                                                                                                                                                                     AGGAGATTAGCCAAGTCACCATTCTCTAAGGGGTTTTTGCTGTTTGCTGGGCTCCA
TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                              AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCAGTTTGCTGGGCTCCA
                                        ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                 cicaígririccicaagaaccaagardaaragcaaracaarrigcriccaaaargggricc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            i.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mammalian histamine H4 receptor proteins and polynucleotides proteins, useful in gene therapy for treating diseases where sficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Histamine H4 receptor; human; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                       CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                      CCTCTACCATCACACACACGCCGTCAGTATCTTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human histamine H4 receptor cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ORTH ) ORTHO-MCNEIL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAI70980 standard; cDNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001WO-US005914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fig 1; 92pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-114339/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; AAM50564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200192485-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the proteins,
beneficial to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lovenberg T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                            1015
                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                1075
                                                                                                                                                                                                                                                                                                                                                                                  1135
                                           781
                                                                   775
                                                                                               841
                                                                                                                       835
                                                                                                                                               901
                                                                                                                                                                         895
                                                                                                                                                                                                                           955
                                                                                                                                                                                                                                                    1021
                   715
                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New
                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                        \delta
                                                             g
                                                                                          à
                                                                                                             원
장
                                                                                                                                                                  g
                                                                                                                                                                                                  9
9
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                      g
                                          \delta
```

```
420
AAI70980-83) and polypeptides (see AAM50564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor where the used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the human histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, noninsulin dependent diabetes mellitus, hyperglycemia, constipation,
                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rcaricinggaaincgigarcccagicarciragicgcrirarircaacargaarainaar 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC 834
                                                                                                                                                    arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                              <u>Argecagatactaatageacaatcaatttatcactaageactcgtgttactttagcattt</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 GACTICITIGIGGGIGIGATCICCATICCITIGIACAICCICACACGCIGITCGAAIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --rgaaggragrgaargrgaaccrggarrrrrrrrcggaarggracarccrrccaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGCTCTTGGAATTCCTGCTTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCICITCCAGIGCITCAGGACACITACACAGAGCIGGGIGGCITGCAGGACAAGIAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTAATGTCTTCATTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                             TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                        GACTICCICGIGGGIIIGAIITICCAIICCICIGIACAICCCICACGIGIIGIITAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         recaeccrerecaaecercarcarcreaeraecaaeccaaeccarcerecaecrecr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Greterrecareacareacaeacaerearreagageragaerarerreaagaagarererr
                                                                                                                                                                                                                                                                                                                                                                                         1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                           ٠<u>,</u>
                                                                                                                                                                                                             Score 686.6; DB 6; Length 1173;
                                                                                                                                                                                Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                         0; Mismatches 284;
                                                                                                                                                                                                                              Pred. No. 2.4e-204
                                                                                                                                                                                                             58.4%;
ilarity 75.1%;
Conservative (
                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                               Query Match
Best Local Simil
Matches 886; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                      ч
                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                          ⋧
                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                            à
```

```
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                            1080
                                                                                                                                                                                         1140
                                                                                              TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAAAACGGAACGCCCCAAAATCGGTG 1020
                                                                                                                                                             1015 rédrárádakirdécarirridéchrekgrédricharrecririgheakrecretringrar 1074
                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                Human; ss; gene; G-protein coupled receptor; AXOR35; lymphocyte; macrophage; eosinophil; neutrophil; infection; transplant rejection; gastrointestinal disorder; gastric ulcer; inflammatory bowel disease; Crohn's disease; irritable bowel syndrome; vomiting; inflammation; attopic dermatitis; allergy; autoimmune disorder; rheumatoin atthitis; psoriasis; urological disease; urinary retention; cardiovascular disease; myoracidal infarction; hypotension; hypotension; pulmonary disorder; chronic obstructive pulmonary disease; cough; renal disease; chronic bease; cough; renal disorder; migraine; anorexia; anxiety; schizophrenia; dyskinesia; parkingon's disease; cancer; obesity; stroke; septic shock;
                              894
     TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC 900
                           TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                                                 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                       AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                  955 TATTCTCTGTTCACAATTGTCCTTTCATTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                        TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTAATCCCTTTCTGTAC
                                                                                                                                                                                    CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ľ
                                                                                                                                                                                                                                                                                                                                                                               Human cDNA encoding G-protein coupled receptor AXOR35.
                                                                                                                                                                                                                                 1141 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                     1135 CCTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Graybill TL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              versus host disease; osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fitzgerald
1, Zhu Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product= "AXOR35"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (SMIK ) SMITHKLINE BEECHAM CORP. (SMIK ) SMITHKLINE BEECHAM PLC.
                                                                                                                                                                                                                                                                                                             ABS57063 standard; cDNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-00497790.
2000US-00693761.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-00431898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-JUL-2001; 2001US-00910411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Aubart KM, Bergsma DJ, Fi
Michalovich D, Morrow DM,
                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-074982/07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US2002137054-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                         28-JAN-2003
                                                 106
                                                                     895
                                                                                             196
       841
                                                                                                                                         1021
                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                  ABS57063;
                                                                                                                                                                                                                                                                                       RESULT 10
                                                                                                                                                                                                                                                                                                 ABS57063
                        g
                                                                   Db
                                                                                           ò
                                                                                                                  g
                                                                                                                                        à
                                                                                                                                                           g
                                                                                                                                                                                    à
                                                                                                                                                                                                        qq
                                                                                                                                                                                                                              à
```

```
The invention relates to an isolated G-protein coupled receptor

C polypeptide, AXOR35, (and its homologues and variants) and its encoding

C polypeptide (and its homologues, variants, complements and RNA

C equivalents). Also included are an anti-AXOR35 antibody, an AXOR35

C equivalents). Also included are an anti-AXOR35 antibody, an AXOR35

C equivalents). Also included are an anti-AXOR35 antibody, an AXOR35

C expression vector, producing a recombinant host cell by introducing the

Vector into a cell such that the host cell produces AXOR35, a membrane of

the host cell expressing AXOR35, identifying/ Screening for agonists or

antagonists of AXOR35 and inhibiting or promoting the function of

by administering to the patient AXOR35 agonists or antagonists. The

agonist or antagonist identified is useful for treating a disease such as

c asthma, or for inhibiting or promoting the function of lymphocytes,

macrophages, eosinophils, or neutrophils in diseased tissue such as an

c asthmatic lung. AXOR35 or polymucleotide is useful in diagnostic assays,

con identifying compounds that are agonists or antagonists of AXOR35, as

cc vaccines, or for treating infections (bacterial, fungal, protozoan or

c viral infections), transplant rejection, gastrointestinal disease),

cc viral infections), transplant rejection, gastrointestinal disease),

cc irritable bowel syndrome, vomiting, inflammation (such as atopic

dermatitis), allergy, autoimmune disocates (such as chematoid arthritis,

psoriasis), urological diseases (such as rheumatoid arthritis,

cardiovascular diseases (such as uninary retention),

chypertension, pulmonary disonders (such as chronic obstructive pulmonary

dispanse)

chypertension, pulmonary disonders (such as rheumatoid arthritis,

chypertension, pulmonary disonders (such as rheumatoid arthritis)
                                                                                    useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (such as migraine, anorexia, anxiety, schizophrenia), dyskinesias (such as Parkinson's disease), cancer, obesity, stroke, septic shock, graft versus host disease and osteoporosis. The present sequence is the cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    disease), cough, renal diseases (such as renal ischaemia),
arteriosclerosis, atherosclerosis, psychotic and neurological disorders
                                                                    Novel isolated G-protein coupled receptor polypeptide, AXOR35, useful treating infections, gastrointestinal disorders, autoimmune disorders, urological diseases, cardiovascular diseases and cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 Argccagaracraaraccacaarcaarrrarcacraagcacrcgrgrracrrragcarrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITATGICCTIAGIAGCITITIGCIAIAAIGCIAGAAAIGCTITIGGICAIITIAGCITI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTICCICGIGGGITIGATITICCATICCICTGIACATCCCTCACGIGITGITIAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 GACTICTIGEGGEGGGATCTCCATTCCTTTGTACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 GATTITGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGTCTACAATATTGTCCTCATTAGCTACGATCGATACCAGTCTCAGTTTCAAATGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 icriaragaacrcaacaracregegrcrrgaagarrgrracrcrearegregecerrreg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 686.6; DB 7;
Pred. No. 2.4e-204;
0; Mismatches 284;
                                                                                                                                                                                                                            Claim 2; Page 21-22; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             58.4%;
75.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
P-PSDB; ABG71960.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                encoding AXOR35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
```

Ob

à

95 PP

g

à

à

```
99US-0120416P.
99US-0121852P.
99US-0123949F.
99US-0136437P.
99US-0136437P.
99US-0136437P.
99US-0137127P.
99US-0137121P.
99US-0137131P.
99US-015633P.
99US-015633P.
            98US-0109213P
                                                                                                                                                                                                                                                                               Liaw CW,
                                                                                                                                                                                                                                                                                                       2003-428952/40.
                                                                                                                                                                                                                                                                               Dang HT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                 ⊢≆
                                                                                                                                                                                                                                                                                                                     P-PSDB; ABU92265.
                                                                                                                                                                                                                    CHEN R.
DANG H 7
LIAW C V
                                 26 - FEB - 1999;
12 - MAR - 1999;
12 - MAR - 1999;
28 - MAY - 1999;
                                                                                                                                                       28-SEP-1999;
29-SEP-1999;
29-SEP-1999;
                                                                                                                                              -JUN-1999
                                                                                                                                                                                               12-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                  Chen R,
                                                                                                                                                                                                                                (DANG/)
(LIAW/)
(LINI/)
                                                                                                                                                                                                                      (CHEN/)
  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       recraradaarınecaririneecircaeneerircaarınecirinercaarecreririnerar 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccarrigirardadecerrircaaaagecriricirgaaaararrirgraraaaaageaa 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; ss; gene; orphan G protein-coupled receptor; GPCR; hARE-3; hARE-4; hARE-5; hRUP3; hRUP5; hRUP7; hGPCR27; hARE-1; hARE-2; hPPR1; hG2A; hCHN3; hCHN4; hCHN6; hCHN9; hCHN10; hRUF4; signalling cascade.
                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                          954
                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                           834
                                                                                                                                                                                                                                                                                                                                                          894
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                      ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                          --rgaaggragraarcragarrrrrrcggarggraggracarccraccarcaca
                                                                                     541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                      TCATICITEGGAATICGTGATCCCAGTCATCTTAGTCGCTTATITTCAACATGAATITAT
                                                                                                                                   Tegagecreregaageergarcarcregragergecaaagecarccregacreacrecr
                                                                                                                                                                                     ACCITITICCAGIGCITICAGGACACTIACACAGAGCIGGGGIGGCITIGCAGGACAAGIAAI
                                                                                                                                                                                                         grcirciriccaacarcigradacacicarrcadadagaaciarcircaadaaacrerr
                                                                                                                                                                                                                                    CCTGGATTGAAGGAATCAGCTGCATCTCACTCAGAAAGTCCTCGAAGAAGAGAGCAGC
                                                                                                                                                                                                                                                           ATCCTGGTGTCTTCAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                          crcargritriccrcaagaaccaagargaaragcaaracaarrgcrrccaaaargggrrcc
                                                                                                                                                                                                                                                                                                                                  TICIGGCGAICGGAAAGIGCAGCGCTICGCCAAAGGGAGIACGCAGAGCTICTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                      TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTTTGTCTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
GTGCTGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGCGCTGTCACAGAAC -- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human cDNA encoding GPCR hRUP7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACA93262 standard; cDNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-JUL-2003
                                                                                                                                                                                                                                                                                                            775
                                                                                                                                                                                                                                                                                                                                                             835
                                                                                                                                                                                                                                                                                                                                                                                                            895
                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACA93262;
                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                              535
                                                                                                                                       601
                                                                                                                                                                                       661
                                                                                                                                                                                                             655
                                        481
                                                                                                                                                               595
                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                       781
                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
```

g

ag y

 $\stackrel{\sim}{\partial}$

Lin I;

```
The invention relates to a human G protein-coupled receptor (GPCR)

The invention relates to a human G protein-coupled receptor (GPCR)

C appearing as ABU92259-ABU92277 (encoded by CDNAs ACA93256-ACA93274) named

CC hARE-3, hARE-4, hARE-5, hRUP3, hRUP07, hGRCRZ1, hARE-1, hARE

CA loo included are a plasmid comprising a vector and one of the CDNAs

CC above and a host cell comprising the plasmid. The GPCRs are useful for

the direct identification of candidate compounds as inverse agonists,

CC agonists or partial agonists. In vitro and in vivo systems incorporating

CC GPCRs is useful for elucidating and understanding the roles these

CC receptors play in the human condition, both normal and diseased, as well

CC sunderstanding the role of constitutive activation as it applies to

Understanding the signalling cascade. The CDNAs are useful for making a

CC understanding the signalisis against tissue mRNA and/or RT-PCR

CC dentification of the expression of the receptor in tissue samples. The

CC present sequence is a CDNA encoding a GPCR of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
Novel endogenous, orphan, human G protein-coupled receptors useful for identification of medulators of the receptor and as research tools for understanding the role of the receptor in human body.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTICITIGIGGGIGIGATOTOCATICOTITIGIACATOCOTOACACGOTGTICGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 AIGICGGAGICIAACAGIACTGGCAICTTGCCACCAGCTGCTCAGGTCCCCTTGGCAITT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 Argecadanachanadeacanneanninaneachanadeacheanninadeann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIPARIGICITICALITIGCCILITIGCIATAATGGIAGGCAATGCTGTGGTCATCTTAGCCTLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 686.6; DB 7; Length 1173; Pred. No. 2.4e-204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches 284;
                                                                                                                                                    Claim 25; Page 22; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        58.4%;
75.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

06-JUN-2001; 2001US-00875076

23-JAN-2003

signal transduction modulator; cerebral cavernous malformation; ds; hyperlipidemia; obesity; dyslexia; cardiac myxoma; renal failure; nephritis; hypertension; liver disease; cirrhosis; blood disorder; spleen-associated disorder; immune disorder; gene; chromosome 18pll.

GPCR; TGR62; kidney disease;

receptor;

G-protein coupled;

/product= "Human G-protein coupled receptor TGR62"

Location/Qualifiers

Homo sapiens

Key

. .1195

/*tag=

WO200200719-A2

03-JAN-2002

Cutler G;

Zhao J, Chen J,

Lin DC,

(TULA-) TULARIK INC

WPI; 2002-147880/19.

P-PSDB; AAU74906

25-JUN-2001; 2001WO-US020363. 23-JUN-2000; 2000US-0213461P.

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTACAGCATTGCCTTCTGGCTGCTATGGTTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1134
                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       regrarada articaritricacitrica directivistica articia de contra de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
360
                                                                                                                                                                   360
                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                954
                                                                                                                                   421 GTGCTGGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTTCAGAGTCTTGGAAGGA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477 --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                             TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                                                                                                                                                                                             ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTTGTGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     535 TCATICITGGAATICGFGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGACTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  655 GICTCTTCCAACAICTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGAICTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               creargrinicercaagaccaagargaaragcaaracaarragcriceaaaaraggrinee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595 rideadectreredandectrearcarctrearadectandectanectrectrectres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781 ATCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   895 AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TATICICIGITICACAATIGICCITITCATITIATICCICAGCAACAGGICCIAAAICAGIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ccarrigicaccaacccrrrcaaacccrrrcaaaccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTCTACCATCACACACAGTCGGTCAGTATCTTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCAA
                                   241
                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                             301
                                                                                                                                                          301
                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                g
                                                                                      ò
                                                                                                                                      g
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Пр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
```

```
The present invention relates to a new G-protein coupled receptor (GPCR) polypeptide comprising greater than 70% amino acid sequence identity to the amino acid sequence of human GPCRs TGR62, TGR21, TGR130.2, human TGR213 or TGR22, 80% amino acid sequence identity to mouse TGR18 or 90% amino acid sequence identity to mouse TGR18 or cefined in the specification. The GPCR covalently linked to a solid phase is useful for identification. The GPCR covalently linked to a solid phase correction motivates and sequence accompand that modulates signal transduction. The identified compounds are useful for treating kidney disease, cerebral cavernous malformations, hyperlipidemia, obesity, dyslexia and cardiac myxoma. The molecules of the invention are useful for diagnosing curinary abnormalities, renal tubule defects, hypertension and cardiac unfiltrations, lasions, functional disorders and jaundice and spleence associated disorders and others. Modulation of the polypeptide of the invention is useful to treat or prevent any of the above conditions or diseases. The present mucleic acid sequence is that of the human GPCR TGR62 gene located on chromosome 18p11 and encodes the human GPCR TGR62 protein of the invention. Abrilled to a protein of the invention of the invention. Abrilled to a protein of the invention of the inventi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AIGICGGAGICTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25 Argccagaracraaragcacaarcaarrrarcacragcacrcgrgrracrrragcarrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTAATGTCTTCATTTGCCTTTGCTATAGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85 TITATGICCITAGIAGCITITIGCIATAATGCIAGGAAATGCITTGGICATTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New G-protein coupled receptor polypeptides, useful for identifying modulators of signal transduction for treating kidney disease, hyperlipidemia, obesity, dyslexia and cardiac myxoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein coupled receptors of the invention (ABK12957- ABK12964)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 686.6; DB 6; Length 1266;
Pred. No. 2.6e-204;
0; Mismatches 284; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1266 BP; 317 A; 268 C; 242 G; 439 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7; Page 60-61; 78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          llarity 75.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    886;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

120 144

DNA sequence of human G-protein coupled receptor TGR62 gene.

(first entry)

09-APR-2002

ABK12959

BXXXXX

ABK12959 standard; DNA; 1266

RESULT 12 ABK12959

BP.

ABA02496 standard; DNA; 1300

ABA02496;

```
1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1158
                                                                                                                                                                                                                                                                                                                                                                200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                     558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           978
                                                                                                                                                                                                                                                                                                                                480
                                                                                                                        300
                                                                                                                                                                                           360
                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                              444
                                                    GACTICCICGIGGGIITIGALTICCALICCICTGIACALCCICACGIGITGITIAACTGG 240
                                                                                                                                                         324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1039 regraragaarrecarrrregerreagregrreaarrecrrrrerearecrerrrerar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1099 CCATTGTGTGTCACAAGGGCTTTCAAAAGGCTTTCTTGAAAAATATTTTTGTATAAAAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rariciciericadarierecrirearrirarierecreageacagerecraariearr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                    TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG
                                                                                    GACTICITIGEGGEGEGATCICCATICCTTEGEACATCCCTCACACCCTGTTCGAATGG
                                                                                                                                                     GATITIGGAAAGGAAATCIGIGIATITIGGCICACIACIGACIAICIGITAIGIACAGCA
                                                                                                                                                                                           TCTGTCTACAATATTGTCCTCATTAGCTACGATCGATACCAGTCTGTTCAAATGCTGTG
                                                                                                                                                                                                                                                             TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                            rctraracaactcaacaracreeegrerreaacarrerracrercarecreares
                                                                                                                                                                                                                                                                                                                                ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                445 grecrescerrerradrearissecearisarrerastricasastrerresasser---
                                                                                                                                                                                                                                                                                                                                                                                                 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                     --rgaaggragrgaargrgaaccrggarrrrrrrcggaarggracarccrrgccarcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rcariciticeaariceidareceagicareiragicecitariticaacaigaaratitar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recadectrerecanderercarcricacracicacicanadectarecridatore
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GICICITICCAACAICIGIGGACACICAITCAGAGGIAGACIAICITCAAGGAGAICICIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     crcargritriccrcaagaaccaagargaaragcaaracaarrgcrrccaaaargggrrcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGAGALTAGCCAAGTCACTGGCCATTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCA
AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1159
                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                          501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                   385
                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                           205
                                                                                                                              241
                                                                                                                                                                265
                                                                                                                                                                                                301
                                                                                                                                                                                                                                 325
                                                                                                                                                                                                                                                                   361
                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       С
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             du
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

à

d ð g à q δ

g ò

g à d δ

δ

```
This sequence represents a polynucleotide encoding a novel human G protein-coupled receptor (GPCR) designated nGPCR-2067. Like all GPCRs, protein-coupled receptor (GPCR) designated nGPCR-2067. Like all GPCRs, nGPCR-2067 has 7 putative transmembrane domains and is involved in signal transduction. The invention also relates to expression vectors and host cells comprising nucleic acids encoding nGPCR-2067, to recombinant cells comprising nucleic acids encoding nGPCR-2067, to recombinant cells comprising methods that use nGPCR-2067, and to modulators of nGPCR-2067 activity. nGPCR-2067 nucleic acid sequences may be used to isolate nGPCR-2067 allelic variants and species homologues and may also be used in CC genetic mapping. The invention also discloses the use of nGPCR-2067 nucleic acids in screening for a predisposition to nGPCR-2067-associated nucleic acids may additionally be used to generate transgenic nucleic acids may additionally be used to generate transgenic animals, including knockout animals, which may provide an insight into treating a variety of human disorders, and may also be used in the design of antisense molecules for suppressing expression of nGPCR-2067 in cells. CG antisense molecules for suppressing expression of nGPCR-2067 in cells. CG medical conditions, particularly mental disorders, central nervous system diseases, and metabolic diseases. Diseases that may be treated
                                                                                                                                                                       Human; nGPCR-2067; G protein-coupled receptor; 7TM receptor;
signal transduction; mental disorder; central nervous system disease;
metabolic disease; infection; HIV-1; HIV-2; pain; neurological disorder;
Whetabolic disease; intection; HIV-1; HIV-2; pain; neurological disorder;
psychotic disorder; Huttington's disease; schizophrenia; migraine;
Wharkinson's disease; proliferative disorder; cancer; psorlasis;
Whorigan prostatic hypertrophy; diabetes; dyslipidaemia; obesity; anorexia;
Whyroid disorder; cardiovoscular disease; hypotension; hypertension;
Whormonal disorder; cardiovoscular disease; hypotension; hypertension;
Whormonal disorder; renal failure; anti-HIV; analgesic; cytostatic;
Whormonal disorder; renal failure; anti-HIV; analgesic; cytostatic;
Whormonal disorder; candiomenue disorder; rheumatoid arthritis;
Whattiparkinsonian; tranquiliser; antidepressant; neuroprotective;
Whattiparkinsonian; tranquiliser; antidepressant; neuroprotective;
Whattiparkinsonian; antinflammatory; antirheumatic; antiarthritic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      encodes the novel G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New polynucleotide, useful for identifying modulator compounds which are used for treating psoriagis. Anivonity allows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      used for treating psoriasis, schizophrenia, diabetes, encov
protein-coupled receptor (nGPCR) polypeptide (nGPCR-2067)
                                                                                                                              Human G protein-coupled receptor nGPCR-2067-encoding DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Human nGPCR-2067"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĽS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antipsoriatic; gene therapy; gene; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 62-63; 100pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Vogeli G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PHAA ) PHARMACIA & UPJOHN CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-MAY-2001; 2001WO-US014750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-MAY-2000; 2000US-0203108P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
/product=
                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41, .1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sejlitz T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-062240/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB; AAM53050.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200185793-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lind P,
```

```
d
                                                                                                                                                                                                                                                                                                                                  ò
                                                                             셤
                                                                                                        ò
                                                                                                                             g
                                                                                                                                                         à
                                                                                                                                                                           g
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                           ä
 include viral infections, particularly HIV-1 or HIV-2 infections; pain, central nervous system, neurological and psychotic disorders such as Huntinoton's disease, schizophremia, migraine, depression, anxiety, bipolar disorder, dementia, Alzheimer's disease, and Parkinson's disease, proliferative disorders such as cancers, benign prostatic hypertrophy and psoriasis; metabolic disorders such as diabetes, dyslipidaemia, obesity, and anorexia; thyroid disorders; cardiovascular diseases such as hypetension, hypertension, thrombosis, mycocardial infarction, cardiomyopathies, and atheroscierosis; inflammatory conditions; autoimmune disorders (e.g., rheumatoid arthritis); hormonal disorders;
                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                  220
                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                               280
                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                              340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       874
                                                                                                                                                                                                                                ATGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                            TITATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                        GACTICCICGIGGGITIGATITICCATICCICTGIACATCCCICACGIGITIAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                    AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                rcrerararacarrercercarcacrarearcearaccrerereserereares
                                                                                                                                                                                                            1 AIGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                           TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                            221 GACTICTITGIGGGIGIGATCICCATICCTTIGIACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                        281 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -- TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCATICTIGGAATICGIGAICCCAGICATCTIAGICGCTTAITICAACAIGAATATITAI
                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rchraragaacicaacaracidegerchigaagarigiracicrgaregreecermes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCTCTTCCAACATCTGGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              815 crcarigrirriccicaadaaccaagardaaradcaaracaarigcrirccaaaardggrircc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                          .
.
                                                                                                                                                                   Length 1300;
                                                                                                                                        Sequence 1300 BP; 324 A; 275 C; 245 G; 456 T; 0 U; 0 Other;
                                                                                                                                                                                       Indels
                                                                                                                                                                DB 6;
                                                                                                                                                                                      0; Mismatches 284;
                                                                                                                                                                Score 686.6; DB 6
Pred. No. 2.6e-204
                                                                                                                                                                58.4%;
                                                                                                                                                                                       Conservative
                                                                                                                                                                          Best Local Similarity
Matches 886; Conserv
                                                                                                                  and renal failure
                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            575
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
555555555555X&
                                                                                                                                                                                                            à
                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                         \delta
                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Пb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \overset{\wedge}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \delta
```

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                           TGGIACAGCATIGCCTICIGGCTGCAATGGIICAATICGIITGIIAATCCCTITCTGIAC 1080
                                                                                                                                                                                                                                                                                                                                                                              regraracaarrecarrrrescrrcagrecrrcaarrecrrrerarrecrrrrerar 1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAAGCAA 1174
                                                                                                                                                                   994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human, G protein-coupled receptor protein BG26; histamine H3; histamine,
altering intracellular cAMP concentration;
regulating signal transduction; ss.
TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                               Tricrocanicadarrorgradororrocandegancargradactrocandrocand
                                                                                                                                                        AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                      TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence is that of the human G protein-coupled receptor protein BG26 encoding cDNA, which shows significant homology with histamine H3, with activity of binding to histamine and capable of changing intracellular cAMP concentration in response to its stimulus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G protein-coupled receptor protein BG26, with activity of binding to histamine and capable of changing intracellular cAMP concentration in response to its stimulus, applicable as tool in screening ligands or candidates.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human G protein-coupled receptor protein BG26 encoding cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG26"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein-coupled receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1175 CCTCTACCATCACACAGTCGGTCAGTACTTCTTAA 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ohta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 37-41; 50pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tanaka K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA; 1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-DEC-2000; 2000WO-JP009038.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (BANY ) BANYU PHARM CO LID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64. .1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nakamura T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-441675/47.
P-PSDB; AAG64477.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAH47911 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200146414-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Itadani H,
                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1115
                                               875
                                                                                                                                                           935
                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                   995
                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                              1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAH47911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAH4791
```

Mon Oct

```
Roush CL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2003-046718/04.
P-PSDB; ABP81727.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   autoimmune diseases.
                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                             ulcer; gene; ds
                                                                                                                                                                                                                                                                                                                                                                                                                    WO200261087-A2
                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                     04-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                        08-AUG-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Burmer GC,
                                                                                                        1138
                                                                                                                                                                                                                   ABZ42573;
                                                                                                                                                                                               ABZ42573
                                                                  1078
                                                                                      1081
                                                                                                                            1141
                                                                                                                                               1198
         961
                                               1021
                                                                                                                                                                            RESULT 15
                                                                                                                                                                                      엄
                                                                                                                                             임
                                                             g
                                                                                      ð
                       g
                                              ð
                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                             2
                                                                                                                                                                                                                                        303
                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   837
                                                                                                                                      120
                                                                                                                                                                              180
                                                                                                                                                                                                243
                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                     423
                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                         597
                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            777
                                                                                                                                                         183
                                                                                                                                                                                                                                                                              363
                                                                                                                   123
                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aggaagcragcraggreacreggcearcerrergagcgerrrrgecahrrachgagcrea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u> Aggagattagccaagtcactagcccartcrcrtaggggtrititigcrgrtrgcfgggctcca</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGTGGCTTGCCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                crcarcritriccrcaagaaccaagardaaragcaaracaarrigcriccaaaarggerrcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>rrcrecearcadrrergradercricededadegaacarergaacigerradagee</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                           541 AIGCICTIGGAAITCCIGCITCCIGICAICTCTGIGGCTIAITICAAIGIACAGAITIAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG
                                                                                                                                                                                                                                                                                                                                                        ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               598 TCATICITICGAATICGIGAICCCAGICATCITAGICGCITATITICAACAIGAATATITAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      658 regadecereredandecereancaretedadiaderecenadecenecideacreaere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                  AIGCCAGAIACIAAIAGCACAAICAAIIIAICACIAAGCACICGIGIIACIIIAGCAIIT
                                                                                                                                       TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                           TITATGICCITAGIAGCITITIGCIATAATGCIAGGAAATGCITITGGICATITIAGCITIT
                                                                                                                                                                             GACTICCICGIGGGITIGATITICCATICCICIGIACAICCCICACGIGITIGATITAACIGG
                                                                                                                                                                                                                                                            AATITITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                       TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                  gracrisaccritcriagraaaraaccaaraarricraarricaaagrarricaaagrarricaaaaga----
                                                                                                                                                                                                                                                                                                                                                                                                                     ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                         -- rgaaggragrgaargrgaaccrggarrrrrrrcggaarggracarccrrccaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            718 greterrecaacarergregacaerecarreagaggragaerarerreaagagarerer
                                                                                                1 AIGICGGAGICTAACAGTACTGGCAICTTGCCACCAGCTGGCTCAGGTCCCCTTGGCATTT
                                                                             Gaps
          and
The protein is applicable as a tool in screening ligands or drug candidates for regulating signal transduction from such protein treating diseases associated with its abnormality
                                                                             9
                                                           DB 4; Length 1312;
                                        0 Other;
                                                                             Indels
                                        Sequence 1312 BP; 326 A; 276 C; 251 G; 459 T; 0 U;
                                                           Score 686.6; DB 4;
Pred. No. 2.6e-204;
0; Mismatches 284;
                                                            58.4%;
75.1%;
                                                                      al Similarity 75.1
886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                          Query Match
Best Local S
                                                                                                                                                                                                                                                                                304
                                                                                                                                                                                                                                                                                                                        364
                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                              424
                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                    484
                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                          244
                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                    301
                                                                                                                                           61
                                                                                                                                                             124
                                                                                                                                                                                                    184
                                                                                                                                                                                                                       181
                                                                                                                       64
                                                                                                                                                                                121
                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                               \delta
                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                    q
                                                                                                                                        ð
                                                                                                                                                       Ωp
                                                                                                                                                                          δ
                                                                                                                                                                                               qq
                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                   à
   5555¥8
                                                                                                                                                                                                                      ò
```

```
The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP82019 to ABP83619) of 12-24 amino acids. Also described: (I) an assay for the detection of a particular G protein-coupled receptor (GPCR) or a candidate polypeptide in a sample; and (2) an isolated antibody having high specificity and high affinity or avidity for a particular GPCR. (I) can be used as GPCR modulators and in gene therapy. The antigonic peptides for GPCRs are useful in detecting an antibody against a particular GPCR, and in the production of specific antibodies. The peptides and antibodies are also useful for detecting the
                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated antigenic peptides e.g., for G protein-coupled receptors (GPCR), useful for diagnosing and designing drugs for treating conditions in which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G protein-coupled receptor; GPCR; antigenic peptide; gene therapy; G protein-coupled receptor modulator; antibody; immune-related disease; coult regeneration-related disease; ALS; canner; immunological-related cell proliferative disease; autoimmune disease; Alzheimer's disease; atherosclerosis; infection; osteoarthritis; allergy; osteoporosis; cardiomyopathy; inflammation; Crohn's disease; diabetes; praft versus host disease; Parkinson's disease; multiple sclerosis; pain; psoriasis; anxiety; depression; schizophrenia; dementia; memory loss; mental retardation; epilepsy; asthma; tuberculosis; obesity; nausea; hypertension; hypotension; renal disorder; rheumatoid arthritis; trauma;
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCCCCCAAATCGGTG
                                                                                        1018 rarrcreterekakarretektrirearrirarrektekekakakagiretaarrakir
                                                                                                                                                                                      TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                               recraradaarrecarrrescrreagiscrreaarrecrrrerearecrerritarar
                                                                                                                                                                                                                                                                                                                                                                                 CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccattgrereaeaecectitcaaaaeectreceaaaatatatristataaaaaeeaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human histamine H4 receptor nucleotide SEQ ID NO:628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 1; 523pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (LIFE-) LIFESPAN BIOSCIENCES INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-DEC-2001; 2001WO-US050107.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-DEC-2000; 2000US-0257144P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; DNA; 3689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
```

CC GPGRs and antibodies are useful for diagnosing and designing drugs for treating immune-related diseases, growth-related diseases, coll creating immune-related diseases, growth-related diseases, cell regeneration-related diseases, immunological-related cell proliferative diseases, or autoimmune diseases, e.g. AIDS, AIZheimer's disease, catherosteleosis, bacterial, fungal, protozoan or viral infections. CC atheroscies, bacterial, fungal, protozoan or viral infections, osteoporosis, cancer, cardiomyopathy, chronic and acute inflammation, allergies, Crohn's disease, diabetes, graft versus host disease, Parkinson's disease, multiple sclerosis, pain, psoriasis, anxiety, depression, schizophrenia, dementia, mental retardation, memory cost, epilepsy, asthma, tuberculosis, obesity, nausea, hypertension, hypotension, renal disorders, rheumatoid arthritis, trauma, ulcers, or my other disorders, they depressy and immunodiagnosis, ABZ42523 to ABZ4269 encode GPCR proteins given in ABP81675 to ABP82018, which are used in the exemplification of the present invention

XX
Sequence 3689 BP; 975 A; 739 C; 746 G; 1229 T; 0 U; 0 Other;

160 120 220 180 280 240 340 300 400 360 420 520 540 694 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480 576 541 AIGCICTIGGAAIICCIGCIICCIGICAICICIGIGGCIIAIIICAAIGIACAGAIIIAC 600 99 720 09 634 754 814 101 Argccagaracraaragcacaarcaarrrarcacraaccacrcgrgracrrragcarrr TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT 161 TTTATGTCCTTAGTAGCTTTTGCTATATGCTAGGAATGCTTTGGTCATTTTAGCTTTT GACTICITIGIGGGIGIGATCICCATICCTTIGIACATCCCTCACACGCTGTTCGAATGG 241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA GATTTTGGAAAGGAAATCTGTGTATTTTTGGCTCACTACTGACTATCTGTTATGTACAGCA TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG 1 AIGICGGAGICIAACAGIACIGGCAICTIGCCACCAGCIGCTCAGGICCCCTIGGCAITI ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA 635 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCCACT ACCICITICCAGIGCTICAGGACACITIACACAGAGCTGGGGTGGCTTGCAGGACAAGIAAT Gréricirice de la contra dela contra de la contra de la contra de la contra de la contra del Gaps -- TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA 521 Grecrescerrerradrearissecearisarrerastricasascrerresas 9; Length 3689; Indels Score 686.6; DB 7; Pred. No. 4.6e-204; 0; Mismatches 284; tery Match 58.4%; sst Local Similarity 75.1%; tches 886; Conservative 19 221 181 461 121 281 301 401 361 421 481 695 661 755 601 Best Loca Matches dd qq ò ò g ò d à Db ò d $\overset{\circ}{2}$ qq δ d ð Dp 8 8 8 g à g

780

5 TCTGCATCGACAGAAGTTCCTGCATCCTTTCAGAGAGAGA	1 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC 840	5 CTCATGTTTTCCTCAAGAACCAAGATAGAATAGCAATACAATTGCTTCCAAAATGGGTTCC 934	1 TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC 900		1 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGGGCTTTTGCCATTTGCTGGGCTCCA 960	5 AGGAGATTAGCCAAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTGCTGGGGCCTCCA 1054	1 TACTGTTCACAATTGTCTTTCAACTTACCCCAAAACGGAACGCCCCAAATCGGTG 1020		1 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTAATCCCTTTCTGTAC 1080	IGH	CTTTGTGTCACAGGCGTTTCCAGAGGCTTTCTGGAAGATACTTTGTGTGACAAAGGAA 1140	CCATTGTGTCACAAGGGCTTTCAAAAGGCTTTCTTGAAATATTTTGTATAAAAAGGAA 1234	CCAGCGCTGTCACAGAGCAGTCAGTATCTTCTTGA 1176	CTCTACCATCACACACAGTCAGTCAGTATCTTCTTAA 1273	
815	781	875	841	935	901	995	961	1055	1021	1115	1081	1175	1141	1235	
qq	δ	qq	ò	qq	ò	Dβ	δ	qa	ò	q _Q	à	QQ	Qy	QΩ	

Search completed: October 1, 2004, 11:32:16 Job time : 568 secs

This Page Blank (uspto)

```
Query Match 58.4%; Score 686.6; DB 3; Best Local Similarity 75.1%; Pred. No. 2.9e-208; Matches 886; Conservative 0; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4, Appli
31, Appli
11,7, Ap
1176, Ap
176, Ap
1314, Ap
1243, Ap
1139, Ap
1139, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Appl
                                                                                                                                        1, 2004, 11:13:04 ; Search time 110 Seconds (without alignments) 5932.930 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                              1 atgroggagtotaacagtac.....accagtoagtatottottga 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 6,
Sequence 4,
Sequence 3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence (Sequence (Sequen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence Sequence S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Issued Patents NA:*

1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/2/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/PcTUS_COMB.seq:*
GenCore version 5.1.6
(c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-414-010-1

US-09-812-216-1

US-09-165-543-6

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-167-534-6

US-09-642-85-6

US-09-642-85-6

US-09-642-85-6

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-166-434-1177

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1176

US-09-016-434-1178

US-09-016-434-1178

US-09-016-434-1178

US-09-016-434-1178

US-09-016-434-1178

US-09-016-434-1178

US-09-016-434-1178

US-09-016-434-1178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                            682709 segs, 277475446 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                         - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                             IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length: 0
length: 2000000000
                                                                                                                                                                                                                                                 US-10-626-445-5
1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11173
11173
113344
1133444
113335
113335
113345
11346
11366
11366
11366
11366
11366
11366
11366
11366
11366
11366
11366
11366
                     Copyright
                                                                                                                                             October
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sed
                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6886.6
6886.6
1140.3
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120.4
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93.8
64.4
64.4
61.2
59
56.8
56.8
                                                                                           OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database
                                                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Result
No.
```

Gaps

6

Length 1173; Indels 09 9 120 120 180 180 240 240

TAGTAGCTITTICATALAANGGTAGGAAATGCTTTGGTCATTTAGCTTTT

TTTATGTCC

121 181 181

61 61

1 ATGCCAGATACTAATAGCACAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT

1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT

121 Glododackaaactradacardaaaghahrarhrrrrcrrahrrggcrarrrcr

GACTICITIGIGGGIGIGATCTCCATICCTTIGIACCCCCACACACGCTGTTCGAAIGG

GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG

Sequence 8, Appli Sequence 6, Appli Sequence 6, Appli Sequence 158, App Sequence 1170, Ap Sequence 1170, Ap Sequence 1, Appli Sequence 1, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 1, Appli	Sequence 22, Appl
US-08-767-993-8 US-08-313-553-6 US-08-767-993-6 US-08-767-993-6 US-08-767-993-6 US-09-716-434-1411 US-09-716-594-158 US-09-717-705-1 US-08-232-463-14 US-08-232-463-14 US-08-171-456-2 US-09-473-634-2 US-09-473-634-14 US-08-875-540-14 US-09-473-634-14 US-09-473-634-14 US-09-473-634-14 US-09-473-634-14 US-09-473-634-14 US-09-473-634-14	MENTS 010
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.1 upplicatio u
208 330 330 331 331 332 333 334 334 335 336 336 337 337 337 337 337 337 337 337	RESULT 1 US-09-414-010-1 US-09-414-010-1 Sequence 1, Application of Sequence 1, APPLICANT: Behan, APPLICANT: Haring APPLICANT: Mang, SN TILLE OF INVENTION of SOFTWARE: PATENTING DATH; NUMBER OF SEQ ID NO SOFTWARE: PATENTING DATH; NUMBER OF SEQ ID NO SOFTWARE: PATENTING DATH; NUMBER OF SEQ ID NO SOFTWARE: PATENTING DATH; SOFTWARE: PATENTING SEQUENCE IN SOFTWARE: PATENTING SEQUEN

g ò g $\overset{\circ}{\sim}$ ð

```
qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \overset{\leftarrow}{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rectaracaarrecarrriescricasiscarricaarrectriscaarcerriristar 1074
                                                                                                                                                                                                                                                                                                                                                                                                                        099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              954
                                                                                          420
                                                                                                                                         480
                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Grenericekacareresakakakerearreakakarakarerareren 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         reriecaredacadaderrecretatrecrretatreadadadadadadadadadadadadad 774
                                              420
                                                                                                                                                                                                                                                                                  534
                                                                                                                                                                                                                                                                                                                                                                TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    654
TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         creargrantecreasasecaagargaaraseaarasearraserrecaaaarassrrec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                     rciraragaacicaacaracregegricrigaagarigiracrergargeregecerrieg
                                                                                                                                                                                                                                                                     --TGAAGGTACTGGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                ATGCTCTTGGAATTCCTGCTTCTGTCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rrcrcccaarcagarrcrgradgercrrcaaaagagaacargraaacrgcrraaaga
                                                                                                                                         ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                   ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                        TGGAGCCTGTGGGAAGCGTAGGGTCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       redalectroridadecergarcarcricaeraceceaecearecteaecreer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCITCITCCAGIGCTICAGGACACTIACACAGAGCIGGGIGGCTIGCAGGACAAGIAAI
                                              TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cercracearcacacacacacacacacacacacacarcaria 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/09812216
Patent No. 6613533
GENERAL INPORMATION:
APPLICANT: Behan, Jiang Xu
APPLICANT: Laz, Thomas M.
APPLICANT: Manswa, Frederick J. Jr.
APPLICANT: Morsew, Kelley L.
APPLICANT: Willand, Shelby P.
APPLICANT: Wang, Suke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 2
US-09-812-216-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                955
                                                                                                                                             421
                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                    535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196
                                                                                               361
                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                       477
                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
       301
                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           oy
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \triangle \trian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                   92
Db
                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                     Dp
                                                                                                                                                                                                                                                                        ď
```

```
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TICTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --rgaaggragraargraaccragarrrrrrrcggaargeracarccrrgccarcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rcriscarciacada de procriscario en recipio de la companidada del companidada del companidada de la comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACTICITIGEGGGGGGGATCTCCATICCTTGTACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             grecrescerretradreadresecearearretreracriceaererreseases----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     regagectigideaagestgateateteagtaggtgeeaaageeateetegaeteget
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCICITCCAGIGCIICAGGACACITTACACAGAGCIGGGGTGGCTTGCAGGACAAGTAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gretetrechaearereredakakatetrearekadarakaerarerrenakadakarerer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 Trialgiccriagiagcritigcialaargcraggaargcrifgcrafriragcriff
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rcrraradaacrcaacaracressercrrsaasarrerracrercarsseseseserres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       erecretacaaaaccrracacarccaagracrrarrirrirraacrreccarcrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9:
                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        Score 686.6; DB 4;
Pred. No. 2.9e-208;
0; Mismatches 284;
CURRENT APPLICATION NUMBER: US/09/812,216
CURRENT FILING DATE: 2001-03-19
PRIOR APPLICATION NUMBER: 09/414,010
PRIOR FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                                                                                                                                                                                                      TYPE: DNA
CRGANISM: Homo sapiens
US-09-812-216-1
                                                                                                                                                                                                                                                         LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
```

m

```
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
CLASSIFICATION:
                                                                                                                                          123
                                                                                                                                                                                                       183
                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                 63
                                              P
                                                                              à
                                                                                                            g
                                                                                                                                          \delta
                                                                                                                                                                      g
                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                             ΩD
                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          дq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                       1080
                                                                                                       TACTGTTCACAAATTGTCCTTTCAACTTACCCCAGAACGCACAAATCGGTG 1020
                                                                                                                                                                                       1014
                                                                                                                                                                                                                                                             ccarrerereaagecriricaaaagecriricrigaaariririgaaaaaageaa 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7
                                                 960
TTCTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC 894
                                                                               954
                                                                         895 Aggagarragccaagrcacragccarrcrcraagggrrrrrgcrgrrrragcragggcrcca
                                                                                                                                      TATTCTCTGTTCACAATTGTCCTTTCATTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                      TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCGTTTGTTAATCCCTTTCTTAC
                                              AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                  CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ο
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1338;
                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 143.2; DB 3; Length
Pred. No. 3e-35;
0; Mismatches 278; Indels
                                                                                                                                                                                                                                                                                            1141 CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                  1135 CCTCTACCATCACAACACAGTCGGTCAGTATCTTCATAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: LAHIVE & COCKFIELD, LLP
28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 6, Application US/09165543
Patent No. 6093545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (617)227-7400
TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12.2%;
54.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1338 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 12.2
Best Local Similarity 54.2
Matches 339; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1..1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: LAF
STREET: 28 Sta
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; NAME/KEY:
; LOCATION:
US-09-165-543-6
                                                                                                                                                                                                                                                                                                                                                                                    US-09-165-543-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                         961
                                                                                                                                       955
                                                                                                                                                                                                  1015
                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                             1075
                                                                                                                                                                      1021
                                                                                                                                  Dp
                                                                                                                                                                    ð
                                                                                                                                                                                                 d
                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                            à
```

```
239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                   119
                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600 cacgecerecaccercaagirericacaccericercaacciraaccireiraaccicaa 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120 CATGGCGCTGCTCATCGTGCCCACAGTACTGGGCAACGCGCTGGTCATGCTCGCCTTCGT
GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                        60 decedenteraceceses de contra contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 decedarrodaecercedaecadaedaerrerrerecendaecercedeareneda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        criceredisserfireatriceatrecressarecereacquergritaaq---rs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              crirccicioscioccrirciocáric contrariora contrar criscio de contrarior de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300 ATCTGTCTACAATAITGTCCTCAITAGCTACGAICGAIACCAGTCTAGATTCAAATGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 GICTIAIAGGGCTCAACACACIGGCAICAIGAAGAIIGIIGCICAAAIGGIGGCIGIIIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGA-----TTCTTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480 defectedecrirectecteraridesectrecearectesecaracerererereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTTGTTACAGAGTGGTACATCCTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540 CAGITCCATCCCCGAGGGCCACTGCTATGCTGAGTTCTTCTACAACTGGTACTTTCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             534 CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAATITIGGAAGIGGAAICIGCAIGITITIGGCICATIACIGACIAICITITIGIGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420 CTCCTACAGGGCCCAGCAGGAGACACGAGACGGGCCGTTCGGAAGATGGCACTGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  594 GATTTACTGGAGCCTGTGGAAGCGTA 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660 carcraccraacarccadaggcca 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 4, Application US/09165543
Patent No. 6093545
```

```
FILING DATE:
                                                                                                                                                                                                                                                                                              02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY:
APPLICANT:
                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            дq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    decedarroda ecrece caca con caracterir in circi con contracted contracted and contracted contracted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1017 chrichtenedescerrerecarcearieraceracerarerererereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1137 cricegrichrcaacarceracricarcaecrareacearrecrerererererereserentes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          crecracadedecedadadesedadadadadedecerregaadaredeadadedecedende 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GETGCTGCCTTCCTGCTGTATGGGCCTGCCATCCTGAGTTGGGAGTACCTGTCTGGTGG 1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1317 CAGTICCATCCCCGAGGCCCACIGCTAIGCIGAGIICTICTACAACIGGTACITICTAT 1376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1377 CACGGCCTCCACCCTCGAGTTCTTCACGCCCTTCCTCAGCGTTACCTTCTTCAACCTCAG 1436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1077 gaccircescesesecriciscaascreresereseresasarakraciaarisistesete 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAAC---TG 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAATTITGGAAGTGGAATCIGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420 GATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGA-----TTCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATTACAATGCTCTTGGAATTCCTGCTTCTCTCTCTGTGGCTTATTCAATGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cardecerrecrearcereceacheracresecancecerecreserence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geoegeracageoegeoegeoegerirereeereeergeorgeorgeorgeorgeorge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63 AAIGICITCAITTGCCTITGCTAIAATGGTAGGCAATGCTGTGGTCAICTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 GICGGAGICIAACAGIACIGGCAICIIGCCACCAGCIGCICAGGICCCCIIGGCAIIIII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 3244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 143.2; DB 3;
Pred. No. 5.1e-35;
0; Mismatches 278;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTGGACAGAAACCTTAGACATCGAAGTAATTATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1437 CATCTACCTGAACATCCAGAGGCGCA 1462
                               NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REPERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEPHONE: (617)242-414
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594 GATTTACTGGAGCCTGTGGAAGCGTA 619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12.2%;
                                                                                                                                                                                                                                                                                                     LENGTH: 3244 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
          ATTORNEY/AGENT INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 339; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
778..2112
                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                                                               TYPE: nucleic
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ), NAME/KEY:
; LOCATION:
US-09-165-543-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
```

RESULT 5
US-08-985-030-3
Sequence 3, Application US/08985090
Patent No. 5885833
GENERAL INFORMATION:

```
419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 daccircodecededecricidedaderieridecieeraeredaciaecieerididedecie 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 GTCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGTGGTTTG 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420 GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360 cicheccircaacarcarcarcacciacaccaccacriceratearcaccaacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120 carecterrecrearcares as a constructive de la constanta de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180 esceceacrecacecece de conservado de consecuencia de consec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTICCICGIGGGITIGATITICCATICCICIGIACATCCCICACGIGITG---ITTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    criccredicescecriciscarccearinariarecraserecresceresceres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63 AATGTCTTCATTTGCCTTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         decelectes de de contra de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1335;
Andrew D.J. Goodearl
FINITION: MUSCARINIC RECEPTORS AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 140.4; DB 2;
Pred. No. 2.3e-34;
0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI-O
TELECOMMUNICATION INPORMATION:
TELEPRONE: (617)22-7400
TELEPRAK: (617)72-4214
INPORMATION FOR SEO ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 133 S Dase pairs
TENTE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 53.6
Matches 341; Conservative
                                                                                                  TITLE OF INVENTION: MU:
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1..1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
```

S

```
180 Gecelacteracicecacceaaaacaacricriceicaaceicaaccicecareicela 239
                                                     474 GAACAGGAGGACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600 caccectrocaccercacericarinaccicericacercacerinarina ess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             534 CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120 cardecerrecrearcardecadecadecredecadecrederedrearecredecricer 179
                                                                                                                                                                               CTICCICGIGGGITIGAITICCATICCICIGIACAICCCICACGIGITG----ITIAACIG
                                                                                                                                                                                                                                 240 CTTCCTCGTCGGCGCCTTCTGCATCCCACTGTAGTACCCTACGTGCTGACAGGCCGCTG
                                                                                                                                                                                                                                                                                                                                                                 300 daccircdecedesecricidedadecisidesenasadeciacidesedese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480 GGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGG
                                                                                                                                                                                                                                                                                                        240 GAATITIGGAAGIGGAAICIGCAIGITITIGGCICAITACIGACIAICITITIGIGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                        360 crcridocirchachredecrecichichechechecherrecrebechenenend
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420 GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540 CAGCICCAICCCCGAGGGCCACTGCTAIGCCGAGTICTICIACAACTGGTACTICCICAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360 GICTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60 decidendecidedecidedecidederirenteschecendecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedecidedeci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63 AATGICITCATITGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3 GICGGAGICTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             THE H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Lovenberg, Timothy
APPLICANT: Exlander, Mark
APPLICANT: Payati, Jayashree
APPLICANT: Huvar, Arne
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence:CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      660 carciacerdaacarceadaddedecececered 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h Similarity 53.6%; Score 140.4; DB 3; Similarity 53.6%; Pred. No. 2.3e-34; Conservative 0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/167,354A
CURRENT FILING DATE: 1998-10-07
NUMBER OF SEQ ID NOS: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-167-354-6
Sequence 6, Application US/09167354A; Patent No. 6136599; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 341; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-167-354-6
                                                                                                                                                                               183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local {
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                                                                                                 qq
                                                                                                                                                                           à
                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
534 CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                       600 cacegerrecacecrassarieriracsecerrecreasesicaecricariraaceress 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179
                                                                                              474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC
                                                                                                                                                              540 CAGCICCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120 chissiscrecricardersechicaderissische chistoriasical chistoria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 GICGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63 AAIGICITCATTIGCCTTIGCIATAAIGGIAGGCAAIGCIGIGGICAICTIAGCCTTIGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                660 carciacrdancarcadaddddcacccgccrcc 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                       594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 140.4; DB 3;
Pred. No. 2.3e-34;
0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E: LAHIVE & COCKFIELD, LLP
28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11.9%;
53.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1335 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 53.6
Matches 341; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1..1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDALL
STREET: 20
TTV: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-165-543-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-165-543-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                              à
                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

182

419 479

359 419 539

```
60 decededesecededesecentesechenteresechecesecentesechesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesecentesec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    daccircescesescererecaseererescretastastastastastastastastas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      474 GAACAGCACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATTACAATGCTCTTGGAATTCCTGCTTCTGTCTCTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600 cacgecrrecacecresagricriraescecerrecresascarecreriraacereas 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 GTCCCAGTCTAACAGTACTGCCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
120 CATGGGGCTGCTCATGGTGGCCACGGTGCTGGTCGTCTTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  crirecresicas contratas de contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420 cicaracedesceaecaesas de constructor estas de contractores de contractores
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                480 genecinección de contracación de actividades de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540 cascrocarceceasseceacicatiscrarscraricareceariscrear
                                                                                                                                                                                                                                                                                                                                CTTCCTCGTGGGTTTGATTTCCATTCCTGTACATCCCTCACGTGTTG---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 GAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                          THE H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Squence 6, Application US/09642514

paquence 6, Application US/09642514

patent No. 6437100

GENERAL INFORMATION;

APPLICANT: Lovenberg, Timothy

APPLICANT: Lovenberg, Timothy

APPLICANT: Evander, Mark

APPLICANT: Evander, Mark

APPLICANT: Evander, Mark

APPLICANT: Pyati, Jayashree

APPLICANT: Arne Evander, Mark

TITLE OF INVENTION: SUBTYPE

TITLE OF INVENTION: SUBTYPE

TITLE REFERENCE: ORT1290

CURRENT APPLICATION NUMBER: US/09/642,514

CURRENT FILING DATE: 1208-120

PRIOR PALING DATE: 1998-10-06

NUMBER OF SEQ ID NOS: 8

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 6

LENGTH: 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    THER INFORMATION: Description of Artificial Sequence: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 140.4; DB 4;
Pred. No. 2.3e-34;
0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660 carcracergaacarceagagggggcaccegecredg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 11.9%;
Best Local Similarity 53.6%;
Matches 341; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 9
US-09-642-514-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-642-514-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                               123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540 CAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCAT 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420 crcaraccesecceaecaseses cases de consecuenca de 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAIACIGGCITICITGGIAAAIGGCCCGAIGAITCIGGCTICAGAI-----ICITGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       egracriedecrirecriedranacedecedecentecriesedesenacererecedeses 539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CALTACAATGCTCTTGGAATTCCTGCTTCTTGTCATCTCTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600 caceecrrccacccresacricriracscccrrccrcasscraccrrrrraaccrcas 659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                        Geccéacrosagecrocescasasasas de la construction de la construcción de construction de la 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eaccrirosecosesecriciedaaeriereseraeraeresacriacrieristacied 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     chricchedredececenteraciataretarararaceeraceardacadecederid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Lovenberg, Timothy
APPLICANT: Extander, Mark
APPLICANT: Extander, Mark
APPLICANT: Pyati, Jayashree
APPLICANT: Pyati, Jayashree
APPLICANT: Huvar, Ane
TITLE OF INVENTION: SUBTYPE
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT PAPLICATION NUMBER: US/09/642,855
CURRENT PILING DATE: 2000-08-21
PRIOR FILING DATE: 1998-10-06
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SSOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63 AATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 cicidecticalcatedietralcalcialdacaecariceristesicaleaadea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                        CTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTG---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , OTHER INFORMATION: Description of Artificial Sequence: CDNAUS-09-642-855-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11.9%; Score 140.4; DB 4; 53.6%; Pred. No. 2.3e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           660 carchacerdaacarccadagececececerces 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 6, Application US/09642855
Patent No. 6413743
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 53.6
Matches 341; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
US-09-642-855-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    594
                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                                                               183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90
70
90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₹
                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                               셤
                                                                                                                             ð
```

2

Gaps

```
RESULT 11
US-09-165-543-1
; Sequence 1, Application US/09165543
; Patent No. 6093545
INPORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 2689 base ---' Type.
                                                      LENGTH: 2689 base pairs
TYPE: nucleic acid
STRANBENDESS: single
TOPOLOGY: linear
MOLECULE TYPE: cDNA
                                                                                                                                                                                                      Query Match
Best Local Similarity 53.6%;
Matches 341; Conservative
                                                                                                                                               CDS
291..1625
                                                                                                                                               NAME/KEY:
LOCATION:
                                                                                                                                                                            US-08-985-090-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                            179
                                                                                                                                239
                122
                                                                       182
                                                                                                   239
                                                                                                                                                             299
                                                                                                                                                                                          299
                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                               419
                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                               420 CTCATACCGGGCCCAGCAGGGTGACACGCGGCGGCGAGGTGCGGAAGATGCTGCTGGTGTG 479
                                                                                                                                                                                                                                                                                                                                                             GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                                             533
                                                                                                                                                                                                                                                                                                                                                                                                                                                          599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534 CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600 cacecrrecacericaagrieriraegeeericereageareeerreinaacereag
                                                                                             Gecceaerceaecerceaeaecaecaecaeaeceneciecicaaecreeceareneea
                                                                                                                                                  CTTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTG
                                                                                                                                                                                                                                                                480 GGTGCTGGCCTTCCTGCTGTGTGACGGACCATCCTGAGCTGGAGTACCTGTCCGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                      474 GAACAGCACGAACACAAAAGGACTGTGAGCCTTGGTTACAGAGTGGTACATCCTCAC
            AAIGICTICATITGCCTTIGCTAIAAIGGTAGGCAAIGCIGIGGICAICTIAGCCTTIGI
                                      chidececrecrearcerecencerecredadadececredadarchiderredri
                                                                   CITCCICGIGGGIIIGAIIIICCAIICCICTGIACAICCCICACGIGIIG----IIIAACIG
                                                                                                                                                                                                                                            300 AICTGICTACAATATTGICCTCATTAGCTACGATGGATACCAGTCAGTTTCAAATGCTGT
                                                                                                                                                                                                                                                                                                      360 GICTIATAGGGCICAACACACTGGCATCATGAAGAITGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   540 cagciccarceceaaggecacaciacianscaaciaciaciacian
                                                                                                                                                                                    GAATITITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl
TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660 CATCTACCTGAACATCCAGAGGGGCACCCGCCTCCG 695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MNI-032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/08985090
Patent No. 5885893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: pc.rc-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Jean M. Silveri
RECISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI
TELECOMMUNICATION INFORMATION;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-985-090-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                 123
                                                                                              180
                                                                                                                           183
                                                                                                                                                       240
                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                               420
                                    a
                                                                 ò
                                                                                           연
                                                                                                                        δ
                                                                                                                                                    원
                                                                                                                                                                                  ð
                                                                                                                                                                                                              dd
                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
```

```
469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           890 caccercencercenses de la contra del la contra della c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          590 GACCTICGGCCGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     650 creridecirca de de consecuencia de consecu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      470 GGCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            530 criccicercescentracarceacierarareraceraceracereacececie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            710 crcariaccesecciascias de consecuencias con consecuencias de consecuencia d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              770 édrecrédecritécrécrerandes de controcres de controcres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63 AATGICTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             410 CATGGCGCTGCTCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCTTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183 CTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTG---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240 GAATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GICTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  830 cágciccárcceceaegeccáciderarececacircricracaaciderácriceicar
                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                               6
                  Length 2689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Miscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
                                                                                                                                                                                                                                                                                                                                                                             Indels
Score 140.4; DB 2;
Pred. No. 3.5e-34;
0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                950 carcracreacarccadadededecececerces 985
```

```
360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420 GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             778 dericchdecerricchechenacdaecearechicardaechenacerererendedes 837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      718 cricaraccedeciceageageridacacegegegegegegegagagariderideregierid 777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598 gaccircoscesoscereriscaascisidascisorastastasciaeciserisciscaecies 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     658 cicireccircia de de contra de co
830 CAGCTCCCTACCCGAGGGCCACTGCTATGCTTCTACAACTGGTACTTCCTCAT 889
                                                                                                                                                                                                                                                                                                                                       cacectrocacciosas de ricritas de conferios de contratorios de 149
                                                                                                                                                                                                       CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               decceaturos actroce caccea se a contratro de contrato d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTG---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 GAATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATGICITCAITTGCCITTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gecelecedecedecedecedentrercedeckeerreekeergereergeergeergeergeergeer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cardececrecrearcerdeceacerecresseaacecrestearcarearcerestres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Lovenberg, Mark
APPLICANT: Lovenberg, Mark
APPLICANT: Evander, Mark
APPLICANT: Fyati, Jayashree
APPLICANT: Huvar, Arne
APPLICANT: Huvar, Arne
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF 7
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/167,354A
CURRENT APPLICATION NUMBER: US/09/167,354A
CURRENT PILING DATE: 1998-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; OTHER INFORMATION: Description of Artificial Sequence: CDNA
US-09-167-354-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 140.4; DB 3;
Pred. No. 3.5e-34;
0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATCTACCTGAACATCCAGAGGCGCACCCGCCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-09-167-354-5
'Sequence 5, Application US/09167354A,
'Patent No. 6136559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11.9%;
milarity 53.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 341; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                           890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        derecridectricerie crienta e de accaración de acta de 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         590 GACCTICGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGTGCACCTC 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         710 cicaraccesecceascaseasersaceseseseses de costas de contractores de contrac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 critecredececerreraciareceacrerararacerraceraceraceacaceceric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    350 decidendecidade de de consecuencia de consecue de consecue de consecuencia de consecuencia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATGICITCATTIGCCTTIGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  410 CATGGCGCTGCTCATCGTGGCCACGTGCTGGCCAACGCGCTGGTCATGCTCGCTTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         deccaactcaacctrocecaaccaacaactrorrecrecreaccaaccrecrea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         650 cicidectrichacaredracicareactacacacacactrecrareacacacaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITCCICGIGGGITTIGATITCCATICCICTGIACATCCCICACGIGITG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 140.4; DB 3;
Pred. No. 3.5e-34;
0; Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILLING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: THE PC compatible
OPERATING SYSTEM: PC-DOS/MS-
SOFTWARE: Patentin Release #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (617)227-7400
TELEPRAX: (617)722-4214
INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 2689 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11.9%;
53.6%;
                                                                28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          341; Conservative
                                                                                                                                Boston
Massachusetts
Y: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
291..1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY:
LOCATION:
                                                                                                                                                                                                STATE: M
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
US-09-165-543-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
```

g à Dp ò q à g δ

ð

```
474 GAACAGCACGAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC 533
                                                                                                                                                                                                       838 cágcrecánteces a general de contra de centra de contra de cont
                                                                                                                                                                                                                                                                                                                                CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGGTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                             898 caccertecaccericade de la contra de la caccerte del la caccerte de la caccert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63 AAIGICITCATITGCCTITGCTATAAIGGIAGGCAAIGCTGGGCGTCATCTTAGCCTTTGT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            598 daccrircáccedaddecricidedaderendiáderagiagradadabenderendiádedene 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 718 cricaracceseccias de descricacion de contra de contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420 GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTG----TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Lovenberg, Timothy
APPLICANT: Lovenberg, Timothy
APPLICANT: Exlander, Mark
APPLICANT: Part, Jayashree
APPLICANT: Part, Jayashree
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: ORT1208
CURRENT APPLICATION NUMBER: US/09/642,514
CURRENT APPLICATION NUMBER: US/09/642,514
PRIOR APPLICATION NUMBER: US/09/642,514
PRIOR PRILING DATE: 1998-10-06
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
TEMORY. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      418 chridedecrecricarderedecredecredecadedecrederengenedecrederen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538 chicchcarcaccriciscalceachtranacharcaccaracanacacacach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240 GAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 53.6%; Pred. No. 3.5e-34;
Matches 341; Conservative 0; Mismatches 286; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: Description of Artificial Sequence: CDNAUS-09-642-514-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   958 chrchhorndhachhochdaddddachccacchdag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGIH:
                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
838 CAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCTTCAT 897
                                                                                                                                                                         CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                      cacectricacectricas de la contra cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240 GAATITIGGAAGIGGAAICIGCAIGITITIGGCICATIACIGACIAICITITGIGCACCGC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360 GICTIATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTG 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGAT-----TCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          derectiedectricerderacedacearectiedectiededactaceretecedes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Lovenberg, Timothy
APPLICANT: Erlander, Mark
APPLICANT: Erlander, Mark
APPLICANT: France, Mark
APPLICANT: Huvar, Arne
ITILE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
ITILE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/642,855
CURRENT APPLICATION NUMBER: 09/167,354
PRIOR FILING DATE: 1998-10-06
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5
LENGTH: 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTCCTCGTGGGTTTGATTTCCATTCCTGTACATCCCTCACGTGTTG---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               538 chicchcencescenterscarecachenarancecenacherscarecers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    598 GACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63 AATGICTICATITIGCCTITIGCTATAATGGTAAGGCAATGCTGTGGTCATCTTAGCCTTIGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            658 crichectricakcaredrecteareactaceacecriceroresereaceacea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               H_3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: Description of Artificial Sequence: CDNA US-09-642-855-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11.9%; Score 140.4; DB 4; Length 53.6%; Pred. No. 3.5e-34; tive 0; Mismatches 286; Indels
                                                                                                                                                                                                                                                                                                                                                                                                   594 GATTTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5, Application US/09642855
Patent No. 6413743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 53.69
Matches 341; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -09-642-855-5
                                                                                                                                                                               534
                                                                                                                                                                                                                                                                                      868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
                                                      g
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \overset{\sim}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

Gaps

6

H3

417

239

359

```
358 GTGTCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTT
                                                                                                                                                                                                                                                                                                                                                                        Job time : 115 secs
                                       169
                                                                                                                                                                    qq
                                                                                                                                                                                                      à
                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                      ð
                              g
                                                                                                   g
                                                                                                                                Š
                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       238 TGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACC 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      resaccircescesescriciscaascrerescreseresrasaciacciaristes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     898 caccerccaccercadarientraccecerrecaccicacciracerratarecred
          GAACAGCACGAACACAAAGGACTGTGAGCCTTGGTTACAGAGTGGTACATCCTCAC 533
                                                                                    838 CAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCAT 897
                                                                                                                         534 CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACA 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
9
                                                                                                                                                                                                                                                                                                   Sequence 6, Application US/08985090
Patent No. 5885893
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl
TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 94; DB 2; Length 1086;
Pred. No. 1.2e-19;
0; Mismatches 170; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                            594 GAITTACTGGAGCCTGTGGAAGCGTAGGGCTCTCAG 629
                                                                                                                                                                                                                           958 chrchaccrehacarccadadececcecerces 993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATJURNE, Jean M. Silveri
NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI-032
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECORPOSE (617)22.-...
TELEPHONE: (617)742-4214
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
-...TUNCTH: 1086 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8.0%;
ilarity 54.6%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: LAHIVE & CO
STREET: 28 State Stree
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1..1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 212; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
US-08-985-090-6
                                                                                                                                                                                                                                                                                  RESULT 15
US-08-985-090-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                          Op
                                                                                                                              δ
                                                                                                                                                        g
                                                                                                                                                                                                δ
                                                                                                                                                                                                                         qq
                                                                  à
```

```
228
                                                                                                                                                        531
                                                       471
                                                                                                   289 GGCAGTTCCATCCCCGAGGGCCACTGCTATGCTGAGTTCTTCTACAACTGGTACTTTCTC 348
                                                                                                                                                                                                                                                   532 ACCATTACAATGCTCTTGGAATTCCTGCTTTCTTCTCTGTGGCTTATTTCAATGTA 591
                                                                                                                                                                                                                                                                                               349 Archeegeneeacenteakarierraaceeerrieerdaacerretratearakaan 408
418 TOGATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGA-----TTCTTGG
                                                                                                                                                        472 AAGAACAGGAAGAACACAAAAGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTC
                                                                                                                                                                                                                                                                                                                                                       592 CAGATITACIGGAGCCIGIGGAAGCGIA 619
                                                                                                                                                                                                                                                                                                                                                                                                       409 AGCATCTACCTGAACATCCAGAGGCGCA 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search completed: October 1, 2004, 13:54:38
```

```
October 1, 2004, 12:53:59 ; Search time 659 Seconds (without alignments) 9046.754 Million cell updates/sec
                                                                                                                                               1 atgtcggagtctaacagtac.....accagtcagtatcttcttga 1176
                                                                                                                                                                                                                                                                                                                                         GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                          3340653 seqs, 2534783454 residues
                                          OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                   Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                      US-10-626-445-5
                                                                                                                                                                       IDENTITY NUC
                                                                                                                                  Perfect score:
                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                Seguence:
                                                                                                                                                                                                         Searched:
                                                                     Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result Ouery SummARIES

No. Score March Length DB ID

1 686.6 58.4 1173 9 US-09-812-216-1

2 686.6 58.4 1173 13 US-09-875-076-13

5 686.6 58.4 1173 13 US-09-875-076-13

6 686.6 58.4 1173 13 US-09-875-076-13

7 686.6 58.4 1173 14 US-09-875-076-13

8 686.6 58.4 1173 15 US-0-975-13

8 686.6 58.4 1173 15 US-0-975-13

8 686.6 58.4 1173 15 US-0-975-13

8 686.6 58.4 1173 15 US-10-272-983-13

10 686.6 58.4 1173 15 US-10-372-983-13

11 686.6 58.4 1173 15 US-10-372-983-13

12 686.6 58.4 1173 15 US-10-373-95-13

13 686.6 58.4 1173 15 US-10-373-95-13

14 686.6 58.4 1173 17 US-10-373-95-13

15 686.6 58.4 1173 17 US-10-373-95-13

16 686.6 58.4 1173 17 US-10-373-95-13

17 US-10-723-955-13

18 686.6 58.4 1173 17 US-10-373-95-13

19 686.6 58.4 1173 17 US-10-373-95-13

10 686.6 58.4 1173 17 US-10-373-95-13

11 686.6 58.4 1173 17 US-10-373-95-13

12 686.6 58.4 1173 17 US-10-373-95-13

13 686.6 58.4 1173 17 US-10-373-95-13

14 686.6 58.4 1173 17 US-10-373-95-13

15 686.6 58.4 1173 17 US-10-373-95-13

16 686.6 58.4 1173 17 US-10-373-95-13

17 US-10-373-95-13

18 686.6 586.7 173 17 US-10-373-95-13

18 686.7 173 17 US-10-373-95-13

18 686.8 173 173 17 US-10-373-95-13

18 686.8 173 17 US-10-373-95-13

18 686.8 173 173 17 US-10-373-95-13

18 686.

Sequence 1, Appli Sequence 1, Appli Sequence 628, App	26, 1	7	Sequence 5, Appli Sequence 6, Appli	, o	9	Sequence 26, Appl	4 Ann	4. Appl	4, Appl	e 4,	Sequence 3, Appli		Sequence 3.		21,	ř	'n	H	a)	ľ		9
10 US-09-852-165-1 17 US-10-696-673-1 15 US-10-225-567A-628	15 US-10-290-078-26 15 US-10-290-078-25 17 ITS-10-308-036-10	US-09-891-053-2	J US-09-891-0 US-09-350-20	9 US-09-349-755-6 9 US-09-166-334-6	US-10-282-958-6	13 US-US-891-US3-26 12 US-10-152-319A-2003	US-09-350-206-4	US-09-349	66-334	15 US-10-282-958-4	US-09-349-7	-166-334-	-10	-727-02	3-09-891-	US-09-350-206	-349-7	US-09-166-3	15 US-10-282-958-1		17 US-10-727-021-5	17 US-10-283-975A-697
1300 1300 3689	1173	1239	1338	1338 1338	1338	2761	3244	3244	3244	3244 1335	1335	1335	1335	1335	2050	2689	6897	2689	68	9		
	00 00 00		12.7		•			12.2	12.2			•	•	•	11.9	•	•	•	•	11.9	٠.	11.5
686.6 686.6 686.6	685 685 271.6	22.		143.2	143.2	143.2	143.2	143.2	143.2	140.4	. `.	140.4	٠.	•	140.4		٠		140.4	140.4	ċ	135.6
15 16	19 19 10 10	21	23 23	25 25	26	121	29	30	31	9 K	34	35	36	7.50	B 0	U 4) r	. .	74.	4.3	44	45

ALIGNMENTS

```
61 ITAATGICTICATITGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AIGTCGGAGICTAACAGIACTGGCAICTTGCCACCAGCTGCTCAGGICCCCTTGGCAITT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AIGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCAITT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
58.4%; Score 686.6; DB 9; Length 1173;
Best Local Similarity 75.1%; Pred. No. 2e-209;
Matches 886; Conservative 0; Mismatches 284; Indels 9;
                 Sequence 1, Application US/09812216
Patent No. US20020098539A1
GENEAL INFORMATION:
APPLICANT: Behan, Jiang Xu
APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Monsan, Frederick J. Jr.
APPLICANT: Monsan, Frederick J. Jr.
APPLICANT: Monse, Kelley L.
APPLICANT: Wang, Suke
ITILE OF INVENTION: Histamine receptor
FILE REPERENCE: CN01069
CURRENT PILING DATE: 2001-03-19
PRIOR APPLICATION NUMBER: US/09/812,216
CURRENT FILING DATE: 2001-03-19
PRIOR FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTING VET. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1173
US-09-812-216-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-812-216-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dp
```

```
; Sequence 1, Application US/09910411; Patent No. US2002013705481
                                                                                                                                                                                                                                                                                                                                                                                   58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 75.1
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                   ;
US-09-910-411-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regracedecarrectricreserrectricearrectricarrectrivalectricres.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAAAAAGACAGC 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   894
                                                                                                                                                                                                                                                                                                        476
                                                                                                                                                                                                                                                                                                                                                                                           009
                                                                                                                                                                                                                                                                                                                                                                                                              654
                                                                                                                                                                  rergretacaararrerecerearrageracearregaraceagrecagriteaaargereg 360
                                                                                                                                                                                           rcicianarakaningrecreareactarakarearakerererekarerekaneere
                                                                                                                                                                                                                      TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG 420
                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                               534
                                                                               300
                                                                                                                                    GATTTTGGAAAGGAAATCTGTGTTTTTGGCTCACTACTGACTATCTGTTATGTACGGA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccairicicicacaacccrircaaaaccirircircaaaaraiairiridaaaaaaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAGATTAGCCAAGTCACTGGCCATTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961 TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATTCTCTCTCACAATTGTCCTTTCATTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCCTGGTGTCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCICITCCAGGACACACITACACAGAGCIGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                            ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                            --TGAAGGTAGTGAATGTGAACTGGATTTTTTTCGGAATGGTACATCCTTGCCATCGA
                                                                                                                                                                                                                                                                                                                                                                                         541 ATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                greretrekazearerigagakekerekarekagagakakeriareritekagakereri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATITIGGAAGIGGAATCIGCAIGITITGGCICATTACTGACTAICITITGIGCACCGCA
                                                                                                                                                                                                                                              TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGT
                                                                                                                                                                                                                                                                                                                                   ACGAACACAAAAGGACTGTGAGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rigangechergenagerententerentengenagerakeen andereken en regeneer
                 GACTTCCTCGTGGGTTTGATTTCCATTCCTCGTACATCCCTCACGGTGTTTAACTGG
CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                    241
                                                                                                                                              241
                                                                                                                                                                        301
                                                                                                                                                                                                    301
                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                     477
                                 121
                                                             181
                                                                                        181
        121
```

g

 δ

20 GG

ά

G 8 6

qq

g ₹ ₽ Q δ 면 장 역

8 P 8

g ð

d

 δ

S a

g

Dp

ŏ

g δ g õ

ò

```
600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541 AIGCICITIGGAATICCTGCTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGAITTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTCAACATGAATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GIGGIGGACAGAAACCITAGACAICGAAGIAATIATITITITITITATITIGGCIALITICI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 GATTTTGGGAAGGAAATCTGTGTGTTTTTGGCTCACTACTGACTATCTGTTATGTACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AAITITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACTICCICGIGGGILIGALITICCALICCICIGIACAICCCICACGIGITGITIAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                              Length 1173;
APPLICANT: Bergerald, Laura
APPLICANT: Fitzgerald, Laura
APPLICANT: Li, Xiachon
APPLICANT: Li, Xiachon
APPLICANT: Li, Xiachon
APPLICANT: Li, Xiachon
APPLICANT: Michalovich, David
APPLICANT: Zhu, Yuan
TITLE OF INVENTION: AXCR35, A G-Protein Coupled Receptor
FILE REFERENCE: G970655-2C1
CURRENT APPLICATION NUMBER: US/09/910,411
CURRENT FILING DATE: 2001-07-20
PRIOR PILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-00-3
PRIOR FILING DATE: 2000-00-3
PRIOR PLING DATE: 2000-00-3
PRIOR PLING DATE: 2000-00-3
PRIOR PLING DATE: 1999-11-02
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FRAESEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                              Score 686.6; DB 9;
Pred. No. 2e-209;
0; Mismatches 284;
```

m

```
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1140
                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1015 iddīkakakatīdcarītītīdcirckatītcakītcrītītītakatīt 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1075 CCATTGTGTCACAAGGGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAAGGCAA 1134
                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                654
                                                                                                                                                                           714
                                                                                                                                                                                                                                                             834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               954
                                                                                                                                                  655 GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGATCTTCAAGGAGATCTCTT
                                       TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                        ACCTUTICCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                        781 AICCIGGIGICCTIAAGGACICACAIGAACAGCAGIAICACIGCCIICAAAGIGGGIICC
                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTGTGAGCGCTTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                              crcargriticorcaagaaccaagargaaragcaaraccaaraccaaaargggrito
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1. Application US/10349253A

Sequence 1. Application US/10349253A

Publication No. US2004004333A1

GENERAL INFORMATION:

APPLICANT: Aubart, Kelly

APPLICANT: Bergsma, Derk

APPLICANT: Bitzgerald, Laura

APPLICANT: Li, Xiatong

APPLICANT: Li, Xiatong

APPLICANT: Li, Xiatong

APPLICANT: Michalovich, David

APPLICANT: Michalovich, David

APPLICANT: Morrow, Dwight

TITLE OF INVERTION: ARXA35, A G-Protein Coupled Receptor

TITLE OF INVERTION: ARXA35, A G-Protein Coupled Receptor

TITLE OF INVERTION: AVENTION OF SECTOR

FILE REFERENCE: 20070655-2C2

CURRENT APPLICATION NUMBER: US/10/349,253A

FRIOR APPLICATION NUMBER: 09/491,411

PRIOR APPLICATION NUMBER: 09/491,790

PRIOR PELING DATE: 2000-10-20

PRIOR PELING DATE: 2000-10-20

PRIOR PELING DATE: 2000-10-20

PRIOR PELING DATE: 1999-11-02

NUMBER OF SECTION NUMBER: 199431,898

PRIOR PILING DATE: 1999-11-02

NUMBER OF SECTION NOM: 2

SECTION NOM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCTACCATCACAACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Homo sapien
US-10-349-253A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 3
US-10-349-253A-1
  601
                                                     595
                                                                                                        199
                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                     715
                                                                                                                                                                                                                                                                                                                                                                                775
                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                          g
ò
                                                                                                     ò
                                                                                                                                            qq
                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
```

```
TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT 120
                                                                                                                                                      180
                                                                                                                                                                                                                240
                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                           241 GAITTITGGAAAGGAAATCIGIGIATAITTIGGCTCACIACTGACTAICIGITAIGIACGGA 300
                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TACTGTCTGTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541 AIGCICTIGGAATICCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    954
                                                 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                        1 AIGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                              61 TTTATGTCCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                         GACTICCICGIGGGITTGATTICCATTCCTCTGTACATCCCTCACGTGTTTTAACTGG
                                                                                                                                                                                                                         241 AATTTTGGAAGTGGAATCTGCATGTTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                            TCTGTCTACAATATTGTCCTCATTAGCTACGATTACAGTTACCAGTTTCAAATGCTGTG
                                                                                                                                                                                                                                                                                                                             TCTTATAGGGCTCAACACAGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          477 --IGAAGGIAGIGAAIGIGAACCIGGAITITITICGGAAIGGIACAICCIIGCCAICACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                    421 GIGCTGGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               535 TCATICITGGAATICGIGAICCCAGICATTAGICGCTIAITICAACAIGAATAITHAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601 IGGAGCCTGTGGAAGCGTAGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTTGCCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTGGATTGAAGGAATCAGCTGCATCTCGTCACAAAAGTCCTCGAAAAAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  775 CTCATGITITCCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAAIGGGITCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                ٠.
د.
      Length 1173
  Score 686.6; DB 13; Length
Pred. No. 2e-209;
0; Mismatches 284; Indels
Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                      61
                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                 121
                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196
                                                   ∂
                                                                     ద
                                                                                                    à
                                                                                                                        g
                                                                                                                                                      ò
                                                                                                                                                                         g
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                   dd
                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \overset{\circ}{\sigma}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
```

CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAGCAA 1140 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTAATCCCTTTCTGTAC 1080 1075 CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAATATTTTGTATAAAAAAGCAA 1134 APPLICANT: Dang, Huong T.
APPLICANT: Liaw, Chen W.
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: AREN0050 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176 FILE REFERENCE ARRANDSO
CURRENT APPLICATION NUMBER: US/09/875,076
CURRENT APPLICATION NUMBER: US/417,044
PRIOR PILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-26
PRIOR FILING DATE: 1999-02-26
PRIOR FILING DATE: 1999-02-26
PRIOR PILING DATE: 1999-02-26
PRIOR PILING DATE: 1999-03-12
PRIOR APPLICATION NUMBER: 60/123,949
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-05-28
PRIOR PELING DATE: 1999-05-29
PRIOR PELING DATE: 1999-05-29
PRIOR PELING DATE: 1999-05-29
PRIOR PELING DATE: 1999-09-29
PRIOR PELING DATE: 1999-00-29
PRIOR PELING DATE: 1999-00-29
PRIOR PELING DATE: 1999-00-29 PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR PILING DATE: 1999-10-01
NUMBER OF SEQ ID NOS: 74
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 13
LENGTH: 1173
TYPE: DNA PRIOR APPLICATION NUMBER: 60/157,293 Sequence 13, Application US/09875076; Publication No. US20030017528A1; GENERAL INFORMATION: APPLICANT: Chen, Ruoping ద ö ö D ò

TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCACAAAGGGAACGCCCAAATCGGTG 1020 AGGAAGCTAGGCCAGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA 960 AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA 954 661 ACCICTICCAGIGCITCAGGACACITACACAGAGCIGGGGIGGCTIGCAGGACAAGTAAT 720 rrcrccaarcasarrcrerascrerrcaccaasseacarerreaacrecrrasasce 894 TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGCTGCCCATGCTGGATTCTCCACT 660 241 AAITITIGGAAGIGGAAICIGCAIGITITIGGCICATIACIGACIAICITITGIGCACCGCA 300 241 gairiridgaaaggaaarcigigiariririggcicaciacigaciarcigirargaagaaagaaaoo 421 ATACTGGCTITCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480 421 GIGCIGGCCITCTIAGIGAAIGGGCCAAIGAITCIAGITICAGAGICTIGGAAGGA---- 476 477 --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCAC 534 541 AIGCICITIGGAAITICCIGCITICATCATCTGIGGCTTATTTCAAIGTACAGAITTAC 600 535 TCATÍCTIGGAÁTTCGTGAÍCCCAGTCATCÍTAGICGCTÁATTÍTCAACAIGAATÁTTÁT 594 TITATGICCTIAGIAGCITITGCIAIAATGCIAGGAAATGCITIGGICAITITAGCITIT 120 655 gretetricekacaretergakeketektrekadagarakartaretrekadgagareterr 715 renecaredacadaagrneenecareerricanicadadadadadadadadadada 781 ATCCIGGIGICTIAAGGACTCACAIGAACAGCAGIATCACIGCCITCAAAGIGGGITCC TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC 595 resasecreresabasesreareareresarasias resarasecaraseres recr GACTICCICGIGGGIIIIGAIIIICCAIIICCICIGIACAICCCICACGIGIIGIIIAACIGG TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG 481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA 121 GIGGIGGACAGAAACCITAGACAICGAAGIAAITAITITITITITAATITGGCIAITICI 1 AIGTOGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT 1 Argecadaracitaradeacacaarcaarriareacreacacregitarearria TTAATGTCTTCATTTGCCTTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGGCCTTT Gaps DB 13; Length 1173; 6 Indels Score 686.6; DB 13; Pred. No. 2e-209; 0; Mismatches 284; Ouery Match
Best Local Similarity 75.1%;
Matches 886; Conservative ; ORGANISM: Homo sapiens US-09-875-076-13 106 895 961 841 835 601 361 181 181 301 g a ò 엄 8 g ò à q g ò 셤 à qq Š g à g à g ò ð qq à g ð g ò ö g ò

834

240

240

180

120 09 9

```
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 GIGGIGGACAAAAACCITAGACAICGAAGIAGITAITITITITITITACIIGGCCAICTI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541 AIGCICIIGGAAIICCIGCIICCIGICAICICIGIGGCIIAIIIICAAIGIACAGAIIIAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            535 rcaricirideaarircerearceaercariciraereerrarireaearearearearea 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 ITTATGICCTIAGIAGCITITIGCIAIAAIGCTAGGAAAIGCTITIGGICAITITAGCITIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 Argccagaraciaaraccaarcaaritarcacraagcacrcgrgrracritagcarri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 TIAAIGICTICATITGCCTITGCTATAAIGGIAGGCAAIGCIGIGGICAICTIAGCCITT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 GIGGIGGACAGAAACCITAGACAICGAAGIAAITAITITITITITIAAITIGGCIAITITI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTICCICGIGGGITTGAITTCCATICCTCTGTACATCCCTCACGIGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 AAITITGGAAGIGGAAICIGCAIGITTIGGCICAITACIGACIAICTITIGIGCACGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGGTCGAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 icitatadaacicaacaracidegercridaadarrerracicedaderedecerring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        477 --rgaaggragardadacchddarrrrrrrcgdaarddracchroccarchd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 686.6; DB 13; Length
Pred. No. 2e-209;
0; Mismatches 284; Indels
                          PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR APPLICATION NUMBER: 60/156,555
PRIOR APPLICATION NUMBER: 60/156,634
PRIOR FILING DATE: 1999-09-29
PRIOR PILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR PILING DATE: 1999-10-01
PRIOR APPLICATION NUMBER: 60/157,280
PRIOR PILING DATE: 1999-10-01
PRIOR PILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-09-29
NUMBER OF SEQ ID NOS: 146
SSEQ ID NO 133
             FILING DATE: 1999-06-29
APPLICATION NUMBER: 60/136,437
FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-876-252-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          심
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Behan, Dominic P.
APPLICANT: Lehmann-Bruinsma, Karin
APPLICANT: Lehmann-Bruinsma, Karin
APPLICANT: Chalmers, Derek T.
APPLICANT: Lowitz, Kevin P.
APPLICANT: Lin, I-Lin
APPLICANT: Lin, Ruoping T.
APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
TITLE OF INVENTION: One Desire Chen W.
TITLE OF INVENTION: AND-Endogenous Constitively Activated Human G Protein Coupled Reg
                                                                                                                           CCTTIGIGICACAGGGGTITCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGGAA 1140
                                       TGGIACAGCAITGCCITCTGGCTGCAATGGTTCCATTTGTTAATCCCTTTCTGTAC 1080
TATICICIGITCACAATIGICCITICALTITATICCICAGCAACAGGICCTAAAICAGIT 1014
                                                                  1075 CCATTGTGTCACAGCGCTTTCAAAGGCTTTCTTGAAAATATTTTGTATAAAAAGGCTT 1134
                                                                                                                                                                                                            1141 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                CTCTACCATCACAACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/876,252
CURRENT FILING DATE: 2001-06-07
PRIOR APPLICATION NUMBER: 09/416,760
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-15
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R APPLICATION WIMBER: 60/109,213
R FILING DATE: 1998-11-20
R APPLICATION WIMBER: 60/123,944
RR APPLICATION WIMBER: 60/123,945
RR APPLICATION WIMBER: 60/123,945
RR FILING DATE: 1999-03-12
RR APPLICATION WIMBER: 60/123,948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R APPLICATION NUMBER: 60/123,946
R FILING DATE: 1999-03-12
R PELLORITON NUMBER: 60/123,949
R FILING DATE: 1999-03-12
R APPLICATION NUMBER: 60/152,524
R FILING DATE: 1999-09-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R APPLICATION NUMBER: 60/108,029
R FILING DATE: 1998-11-12
R APPLICATION NUMBER: 60/136,436
R APPLICATION NUMBER: 60/136,439
R FILING DATE: 1999-05-28
R FILING DATE: 1999-05-28
R APPLICATION NUMBER: 60/136,557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/121,852
FILING DATE: 1999-02-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 1999-03-12
APPLICATION NUMBER: 60/123,951
FILING DATE: 1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 60/137,131
FILING DATE: 1999-05-28
APPLICATION NUMBER: 60/141,448
                                                                                                                                                                                                                                                                                                                                                            Sequence 13, Application US/09876252
Publication No. US20030018182A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60/151,114
FILING DATE: 1999-08-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: 60/137,127
FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1999-05-28
                                                                                                                             1081
                                         1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR
PRIOR
PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR I
                                       à
                                                                          g
                                                                                                                         ò
                                                                                                                                                              a
                                                                                                                                                                                                            ਨੇ
                                                                                                                                                                                                                                             g
```

```
1015 IGGTATAGAATIGCATITITGCTITCAGIGGTICAATICCTITIGTCAATCCTCTITIGTAT 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 894
                                                                                                                                         360
                                                                                                                                                                                               420
                                                                                                                                                                                                                                                  421 ATACTGGCTTTCTTGGTAAATGGCCCGGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                             476
                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                    534
                                                                                                                                                                                                                                                                                                                                                                541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                           594
                                                                                                                                                                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                                                                                                                                                                                 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   834
                                                                                  300
                                                                                                  360
                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAAGCTAGCCAGGTCACTGGCCATCCTTTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGTACAGCATTGCCTTCTGGGTGCAATGGTTCAATTCGTTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rergeategacagaagtrectgeatecttreatteagagagacagagagaaagagtägt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCCTGGTGTCGTTAAGGACTCACATGAACAGCAGTACACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  crcaristriccicaadaaccaadardaaraddaaracaaridcriccaaaardddircc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rrcrccaarcadarrcrdradcrcrrcadddaadadacardradaacradaddd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGGGCTCAACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                      TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                                                                                                                                                          481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                              rcariciridaaairicgigarcccagrcarctragrcgcriairicaacargaarafriar
                                                                                                                                                                                                                                                                                                                                                                                                                     TGGAGCCTGTGGAAGCGTAGGCTTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCICITCCAGIGCITCAGGACACITACACAGAGGIGGGIGGGTIGCAGGACAAGIAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    greiritekacaretergekeketektrektekekeketatettekekekeketet
                                                                                                                                        gracradecritcriadradadadaccaardarreradritcadacritcadaada----
GACTICCICGIGGGITIGATITICCATICCICIGIACAICCCICACGIGITGITIAACIGG
                                            AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cercraccarcacacacacicacicacitaticita 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-272-983-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                   535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                          595
                                                                                                                                                                                                                                                                                                                                                                                                                              601
          121
                                                              181
                                                                                                                   241
                                                                                                                                                                           301
                                                                                                                                                                                                      361
                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                             477
                                    181
                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                         ⋧
                                                                                                                                               ò
                                                                                                                                                                         원
                                                                                                                                                                                                     ð
                                    8
                                                         q
                                                                                           ⋧
                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2;
                                                                                                                                                                                                                                                                                                                                              1014
                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GIGGIGGACAGAAACCITAGACAICGAAGTAATTITITITITITATITIGGCATITICI 180
                                                                                                                                                                                                                                                                                                                   TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09
                                                                                                                                                   840
                                                                                                                                                                                                                                     894
                                                                                                                                                                                                                                                                                          954
                                                                                                                                                                           cicargriticcicaagaaccaagargaaracaaracaarrgcritcaaaargggricc 834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                           TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                               AGGAAGCTAGCCAAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCAATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                      AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                           regraradaarriecarririgecricagiegriicaarriccririgicaarccrcriririgiar
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccairgicicacaagcgcitrcaaaaggctrrctrgaaaaratrtrgraraaaagggaa
                                                                                                                                                                                                         TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                       CCTGGATTGAAGGAATCAGCTGCATCTCGTCACAGAAAGAGCAGCAGC
                                                                                                                 ATCCTGGTGTCTTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
           grererreceacarergeacaceerearreagaggragaerarerreaggarererr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 14; Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/10052193
; Bublication No. US20020132755A1
; GENERAL INFORMATION:
; APPLICANT: Pitzer, Inc.
; TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS
; TILE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS
; TILE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS
; CURRENT APPLICATION NUMBER: US/10/052,193
; CURRENT FILING DATE: 2002-01-17
; PRIOR FILING DATE: 2001-01-17
; NUMBER OF SEQ ID NOS: 10
; SEQ ID NO 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58.4%; Score 686.6; DB 14; 75.1%; Pred. No. 2e-209; ive 0; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 886; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: HC
US-10-052-193-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
US-10-052-193-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                              1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1075
                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                       955
                                                                        655
                                                                                                    721
                                                                                                                               715
                                                                                                                                                                                   775
                                                                                                                                                                                                                                          835
                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                895
                                                                                                                                                           781
                                                                                                                                                                                                                841
```

g

\$ B \$

ng of an

Db Q7 DP

90 8

ð

qq δ

 δ

dd à 셤 ð

à

~

```
1015 rddraradaarrdcarrrrrdgcrrrcagrdgrrcharrccrrrgrcaarccrrrrrrrrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1075 CCATIGICACAGCGCTITCAAAAGGCTITCITGAAATAITITGIAIAAAAAGCAA 1134
                   421 GTGCTGGCCTTCTTAGTGAATGGGCCAATGATTTCTAGTTTCAGAGTCTTGGAAGGA---- 476
                                                                                                                                                                                                                                                                                                                                                541 AIGCICTIGGAATICCIGCTICCIGICAICTCIGIGGCTTATTTCAAIGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                             535 TCATICITGGGAATICGIGATCCCAGTCATAGTCGCTTATTTCAACATGAATATITAT 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  recarectioneday activity and a second conference of the second conferen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                              181 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655 GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781 AICCIGGIGICCITAAGGACICACAIGAACAGCAGIAICACIGCCIICAAAGIGGGIICC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  775 CTCATGTTTTCCTCAAGAACCAAGATGAATACCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      895 AGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961 TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCICITCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    835 Tricricia Articria de de la contra del la contra de la contra de la contra del la cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        resadecreresaagesrearcarcresaragreceaaagecarecresacreer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1135 CCTCTACCATCACACACACTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Pfizer Inc.
APPLICANT: O'Reilly, Mark A.
APPLICANT: Peter, Beate
ITLE OF INVENTION: NOVEL POLYPEPTIDE
FILE REFERENCE: PC10373B
CURRENT APPLICATION NUMBER: US,10/354,769
CURRENT APPLICATION NUMBER: US,09/698,801
PRIOR FILING DATE: 2000-10-27
PRIOR FILING DATE: 2000-10-27
PRIOR FILING DATE: 2000-66-14
PRIOR FILING DATE: 1999-10-29
PRIOR FILING DATE: 1999-10-29
PRIOR FILING DATE: 2000-66-14
PRIOR FILING DATE: 2000-66-14
PRIOR FILING DATE: 1999-10-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/10354769
Publication No. US20030149242A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-354-769-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                    ò
                                                                                                                                                                                                                                 Пр
                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \overset{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     referatararatecatecteresectarearesarecteresecteresarecteres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                         APPLICANT: Chen, Wouping
APPLICANT: Chen, Wouping
APPLICANT: Dang, Huong T.
APPLICANT: Lin, Lina, Chen W.
APPLICANT: Lina, Chen W.
APPLICANT: Lina, Chen W.
APPLICANT: Lina, L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ATGCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 TIAAIGICTICATITGCCTTIGCTATAAIGGIAGGCAAIGCTGTGGICAICTIAGCCTTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 TITATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACTTCTTTGTGGGTGTGATCTCCATTCCTTTGTACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 GATITIGGAAAGGAAATCIGIGIAITITIGGCTCACTACIGACTAICIGITAIGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GACTICCICGIGGGITIGALITICCALICCICTGIACAICCCICACGIGITIGITITAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 AATTITIGGAAGIGGAAICIGCAIGITITIGGCICATIACIGACIAICITITIGIGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 15; Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 686.6; DB 15; Length
Pred. No. 2e-209;
0; Mismatches 284; Indels
Sequence 13, Application US/10272983
Publication No. US20030148450A1
                                           FUDIICATION NO. US20030148450A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
```

```
1140
                                                                                                                            1080
                                                                                                                                                                                                                                              1075 CCALTGEGECAAGCGCTTTCAAAAGCTTTCTTGAAAATATTTTGTATAAAAAGCAA 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INCRAMATION:

APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
APPLICANT: Liam, I-Lin,
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
CURRENT APPLICATION NUMBER: US/09/417,044
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-03-12
PRIOR PAPLICATION NUMBER: 60/123,946
PRIOR FILING DATE: 1999-03-12
PRIOR PAPLICATION NUMBER: 60/136,436
PRIOR FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Argccagaractaaracacaarcaartrarcactaagcactcgrgrractragcatrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                          955 TATTCTCTCTTCATTGTCCTTTCATTTTATTCCTCAGGACAGGTCCTAAATCAGTT
                                                                                                                                                           1015 IGGTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTTTTGTAT
895 AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCA
                                           TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                            TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTAATCCCTTTCTGTAC
                                                                                                                                                                                                             CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                1141 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                 Score 686.6; DB 15;
Pred. No. 2e-209;
0; Mismatches 284; I
                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 13, Application US/10393807; Publication No. US20030175891A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 58.4%;
Best Local Similarity 75.1%;
Matches 886; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 9
US-10-393-807-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19
                                                                                                                                                                                                                                                                                                                                                1135
                                                                                                                                                                                                                      1081
                                                  961
                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                         qq
                                                                                       d
                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                      ò
                                                  ò
                                                                                                                                   ò
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              960
                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  714
                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  654
                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG 360
                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     655 gróricircaacarcigrádacacicarreadaderadaciarcircaaggagarcier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601 TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              477 --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661 ACCICITCCAGIGCITCAGGACACITACACAGAGCIGGGGIGGCITGCAGGACAAGIAAI
                                                                                                                                                                                                                                                                                                                                                         TTATGTCCTTAGTAGCTTTGCTATAATGCTAGAAATGCTTTGGTCATTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arieccacaracraaraccacaarcaarrrarcacraaccacregrerracrrragearrr
                                                                                                                                                                                                                                                                                                                            TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                               GACTTCCTCGTGGGTTTGATTTCCATCTTGTACATCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rchranagaacrcaacanacregegrenreaagangrnacrergargeregegeger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421 gracradecerretradreartoseceartearretragrireasaretresasare---
                                                                                                                                                                                                                                              1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                             Length 1173;
                                                                                                                                                           Score 686.6; DB 15; Length
Pred. No. 2e-209;
0; Mismatches 284; Indels
                                                                                                                                                               Query Match
Best Local Similarity 75.1%;
Matches 886; Conservative
                 3.1
                   SOFTWARE: PatentIn version
                                                                                TYPE: DNA
ORGANISM: Homo sapiens
                                                          1173
                                                                                                        ; ORGANISM: AN
US-10-354-769-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           835
                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                     SEQ ID NO 1
LENGIH: 1
```

qq

Op ò qq δ

qq

qq δ dd δ 임 δ g δ

d ð g ð 엄 ò g ð g ð

à

g

ò

g

 δ

თ

```
TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG 420
                                                                                                                                                                        GENERAL INFORMATION:

APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Lowitz, Kevin
APPLICANT: Chenter, Revin
APPLICANT: Chenter, Deminic P.
TITLE OF INVENTION: Receptors
TITLE OF INVENTION: Receptors
FILE REFRENCE: 7.US28.COM
CURRENT APPLICATION NUMBER: 08/416,760
PRIOR PILING DATE: 1999-10-12
PRIOR PILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR PRICATION NUMBER: 60/110,660
PRIOR APPLICATION NUMBER: 60/110,660
PRIOR PRILING DATE: 1998-02-26
PRIOR PRILING DATE: 1998-02-26
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR PRINC DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR PRIOR DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-13
PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 TITATGICCITAGIAGCITTIGCIATAATGCIAGGAAATGCTTIGGICATTITAGCITTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTICCTCGIGGGITIGATITCCATICCTCTGIACATCCCTCACGIGITGITIAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rengrariana de la contra dela contra de la contra dela contra de la contra del la contra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GACTICITIGIGGGIGIGATOTCCATICCTTIGIACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 686.6; DB 16; Length 1173;
Pred. No. 2e-209;
0; Mismatches 284; Indels 9;
                                                                                ; Sequence 13, Application US/10417820A
; Publication No. US20030229216A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best_Local Similarity 75.1
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-417-820A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rarrcrerericacaarrerecrrrearrirarrecreaecaacaecreraaareaerr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAGCAA 1134
                                                                                180
                                                                                                                                                            240
                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                 241 GATITIGGAAAGGAAATCIGIGTAITITIGCCTCACIACTGACIAICIGITAIGIACAGCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421 Gracificararakarakarakarakarikarakarirakakari
                                                241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421 ATACTGGCTTTCTTGGTAAATGGCCCGGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       477 -- TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 ATGCTCTTGGAATTCCTGTTCTTGTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               535 TCATÍCITGGAATICGTGATCCCAGICATCTTAGTCGCTTATTTCAACATGAATATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                    GACTICCICGIGGGITIGATITICCATICCICTGIACATCCCTCACGIGITGITIAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CICATGITITICCICAAGAACCAAGAIGAATAGCAATAGCITICCAAAATGGGTICC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Triciccianicadarreignadericiricacianadesda caretrea actual de antica de contra de actual de actua
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCTACCATCACACACAGTCGGTCAGTATCTTCATAA 1173
GTGGTGGACAGAACCTTAGACATCGAAGTAATTATT
                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
121
                                                                        121
                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                    à
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                    \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
```

120 120 180 180 240 240 300 300 360

361

09

Gaps

```
58.48;
75.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 58.4
Best Local Similarity 75.1
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-723-955-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCAACCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    954
                                                                             480
                                                                                                                          476
                                                                                                                                                                                                                                                                       600
                                                                                                                                                                                                                                                                                                                                                                    999
                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             774
                              420
                                                                                                                                                                                                                       534
                                                                                                                                                                                                                                                                                                                    594
                                                                                                                                                                                                                                                                                                                                                                                                                 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              regranadaarrecarringecricagiegricaarrecrirercaarecrerringran
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                        Grecorrenagical de la compartica del la compartica de la compartica del la compartica del la compartica del la compartica del la compartica de
                                                                                                                                                                          481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACTTACA
                                                                                                                                                                                                                     --rgaaggragrgaargrgaaccrggarrrrrrrrggaarggracarccrrgccarcaca
                                                                                                                                                                                                                                                                       541 AIGCTCTIGGAATICCTGCTTCCTGTCATCTCTGTGGCTTATTTCAAIGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                    535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                    TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                             ACCICITCCAGIGCTICAGGACACITACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cicargritriccicaagaaccaagargaaragcaaracaarrgcriccaaaargggircc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Behan, Dominic P.
APPLICANT: Chalmers, Derek T.
APPLICANT: Chalmers, Derek T.
APPLICANT: Lin, T-Lin
APPLICANT: Liaw, Chen W.
APPLICANT: Lehman-Bruinsma, Karin
APPLICANT: Lowitz, Kevin P.
APPLICANT: Dang, Huong T.
APPLICANT: Chen, Ruoping
APPLICANT: Chen, Martin
APPLICANT: Core, Martin
APPLICANT: Carolitutively Activated Human G Protein Coupled
TITLE OF INVENTION: Receptors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTGTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cereracearcacacacacacideres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 13, Application US/10723955
Publication No. US20040110238A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-723-955-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                    595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                          477
                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                               421
                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                        Q
                                                                                                                                                                          ò
                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                           à
```

```
240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rrrargicerragiagerringerarangeraggaaargerriggicarrragerrin 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rcretatatatadacatrercercarcaecrarearcearacerercaerercaarecrerer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACTICCICGIGGGITIGGAITICCAITCCICIGIACAICCCICACGIGIIGITIAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTICTITGIGGGTGTGTGTGTCTCCATICCTTTGTACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -- TGAAGGTAGTGAATGTGAACCTGGATTTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Argecaganachanacacaancaannarcachaageachegenanachnageant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1173;
CURRENT APPLICATION NUMBER: US/10/723,955
CURRENT FILING DATE: 2003-11-26
FRICAR PAPLICATION NUMBER: 10/417,820
FRICAR PEDLICATION NUMBER: 10/417,820
FRICAR PILING DATE: 2003-4-16
FRICAR PILING DATE: 1999-10-12
FRICAR PILING DATE: 1998-10-12
FRICAR PILING DATE: 1998-10-13
FRICAR FILING DATE: 1998-10-13
FRICAR FILING DATE: 1998-10-13
FRICAR FILING DATE: 1999-10-24
FRICAR FILING DATE: 1999-10-24
FRICAR FILING DATE: 1999-10-26
FRICAR PAPLICATION NUMBER: 60/120,416
FRICAR PAPLICATION NUMBER: 60/121,852
FRICAR PAPLICATION NUMBER: 60/123,944
FRICAR FILING DATE: 1999-02-26
FRICAR FILING DATE: 1999-03-12
FRICAR FILING DATE: 1999-03-12
FRICAR PAPLICATION NUMBER: 60/123,945
FRICAR FILING DATE: 1999-03-12
FRICAR FILING DATE: 1909-03-12
FRICAR FILING DATE: 100 FOST: 148
FRICAR FILING DATE: 100 FOST: 100 FOST: 148
FRICAR FILING DATE: 100 FOST: 148
F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 686.6; DB 17; Length
Pred. No. 2e-209;
0; Mismatches 284; Indels
```

300 360 420

120

```
241 AATTTIGGAAGIGGAAICIGCAIGITTIGGCICATTACIGACTAICTTTIGIGCACCGCA 300
                                                                                                                                                                                                                                                                                                                                                                                          TCTGTATATAAACATTGTCCTCATCAGCTATGATCGATACCTGTCACGTCTCAAATGCTGTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGTGGTGGCCGTTTGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTTGGCTTCAGATTCTTGGAAGAACAGC 480
         TTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                              GACTICCICGIGGGITIGATITCCATICCTCTGTACATCCCTCACGTGTTTTAACTGG
                                                                                                                                                                                                   GACTICITIGE CONTROLL CONTROL 
                                                                                                                                                                                                                                                                                                                241 GATTTTGGAAAGGAAATCTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541 ATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     535 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTTCAACATGAATATTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGAGCCTGTGGAAGCGTGATCATCTCAGTAGGTGCCAAAGCCATCCTGGACTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661 ACCICTICCAGIGCTICAGGACACITACACAGAGCIGGGIGGCTIGCAGGACAAGIAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTITGIGICACAGGCGIIICCAGAAGGCIIITCIGGAAGAIACIIIGIGIGACAAAGCAA
                                                                                                                                                                                                                                                                                                                                                               TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             grecreeccrrcrragrearedeccarearrerreragrireagacrrreagacrr-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481 ACGAACACAAAGGACTGTGAGCCTTGGTTACAGGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       775 CICAIGITITICCICAAGAACCAAGAIGAAIAGCAAIACAAITGCITCCAAAAIGGGITCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Trefeccaarcastreferacererresceaasesaacarerreacererrasasee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACTGTCTGTTCACAATTGTCCTTTTCAACTTACCCCAGAACGGCACCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           655 GICTCTICCAACAICIGGACACICATICAGAGGIAGACIAICTICAAGGAGAICICII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1075 CCATTGTGTGTCACAAGGGGTTTCTTGAAAAGGCTTTCTTGAAAAATATTTTGTATAAAAAAGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                            121
                                                                                                                                                                        181
                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1141
                                  61
                                                                              121
                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              835
                                                                                                             g
                                                                                                                                                                     \overset{\sim}{\circ}
                                                                                                                                                                                                        ď
                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                    원
상
                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                             P 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6
                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           원
장
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   면 상
연
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 å
d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTTAATCCCTTTCTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1015 iddialagaaliticarititigecircagiegircaaricciritigicaarecreirrigiar 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAATATTTTTGTATAAAAAGCAA 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7
                                                                                                                                                                     720
                                                                                                                                                                                                                 714
                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                        834
                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             954
654
                                                                                                                                                                                                                                                                                                              774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 TIAAIGTCTTCATTIGCCTTTGCTAAAIGGTAGGCAAIGCTGIGGTCATCTTAGCCTTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                        CICATGITITCCICAAGAACCAAGAIGAAIAGAAIACAAITGCITCCAAAAIGGGITCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGAAGCTAGCCAGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATTCTCTGTTCACATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT
                                                                         TGGAGCCTGTGGAAGCGTAGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                     redadectreredadecerearcareredaradereceaadecearecredacreaerecr
                                                                                                                                                                 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                               GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                             CCTGGATTGAAGGAATCAGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAGAGCAGC
                                                                                                                                                                                                                                                                                                                                                          ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TICTGGCGAICGGAAAGIGCAGCGCTICGCCAAAGGGAGIACGCAGAGCTICTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGCCAGATACTAATAGCACAATCTAATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AIGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  58.4%; Score 686.6; DB 17; Length 1173;
.larity 75.1%; Pred. No. 2e-209;
Conservative 0; Mismatches 284; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTCTACCATCACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
US-10-737-619-1
; Sequence 1, Application US/10737619
; Publication No. US20040138234A1
; GENERAL INFORMATION:
; APPLICANT: Pfizer, Inc.
; TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS
; FILE REPERENCE: PC10963A
; CURRENT FILING DATE: 2003-12-16
; PRIOR APPLICATION NUMBER: 0101223.6
; PRIOR APPLICATION NUMBER: 0101223.6
; RIMBER OF SEQ ID NOS: 10
; SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 886; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-737-619-1
                             535
                                                                         09
                                                                                                                                                                   199
                                                                                                                                                                                                               655
                                                                                                                                                                                                                                                             721
                                                                                                                                                                                                                                                                                                            715
                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                      775
                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 1
                          유
                                                                      δ
                                                                                                                Ω
                                                                                                                                                              δ
                                                                                                                                                                                                g
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
```

099 654 720

534

594 99 654

g

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            955 TÁTTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1015 regraragaarrecarrrrescrrcagregrrcaarrecrrrgrearcecrrrrerar 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1075 CCATTGTGTCACAAGCGCTTTCAAAAGGCTTTCTTGAAAATATTTTGTATAAAAAAGGCAA 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA 960
                                                                                             ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                            ATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGCTTATTTCAATGTACAGATTTAC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCICITICCAGIGCITICAGGACACITACACAGAGCIGGGGIGGCITGCAGGACAAGIAAI 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Grenericeaacarcierdadacaercarreadaderadaerrarerreaadaarererr 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              715 renecarceacadaderrecrecarecrricarreadadadadadadadadadadadar 774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TICIGGCGAICGGAAAGIGCAGGGCTICGCCAAAGGGAGTACGCAGAGCITCTCAGAGGC 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                                                                                               481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               crcargririccrcaagaaccaagargaaragcaaracaarrgcrrccaaaargggrrcc
TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                       -- TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                   TCATICITIGATICGIGATICCAGICATCITIA
                                            rctraragaactcaacaractggggrctrgaagarrgtractcrgarggrggcgrrfgg
                                                                                                                                                                                                                                                                                                                                                                                                                                             Tegasccreredadecergarcarcrearagereceaaagecarceregacreer
                                                                                                                                                                                                                                                                                                                                                                                            TOGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Cutler, General APPLICANT: Tularik Inc.
TITLE OF INVENTION: No. US20030083245Alel Receptors
FILE REPERINCE: 018781-066210US
CURRENT APPLICATION NUMBER: US/09/891,138A
CURRENT FILING DATE: 2001-06-25
PRIOR PLICATION NUMBER: US 60/213,461
PRIOR FILING DATE: 2000-06-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/09891138A Publication No. US20030083245A1 GENERAL INFORMATION:
APPLICANT: Lin, Daniel Chi-Hong APPLICANT: Zhao, Jiagang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhao, Jiagang
Chen, Jin-Long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
US-09-891-138A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                              361
                                                                                                  421
                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                      g
                                                                                               ઠે
                                                                                                                                      g
                                                                                                                                                                                               ò
                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGTATATAAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAATGCTGTG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GATTTTGGAAAGGAAATCTGTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITATGICCTTAGIAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GIGGIGGACAAAAACCITAGACAICGAAGIAGITAITITITITITITITITIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 Argccagaracraaragcacaarcaarrrarcacraagcacrcgrgrracrrragcarrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 74 SOFTWARE: PatentIn Ver. 2.1 SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1173;
                                                                                                                                                             GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Chen, Ruoping
APPLICANT: Dang, Huong T.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, I Liin
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: ARENOGSO
CURRENT APPLICATION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: ARENOGSO
CURRENT APPLICATION: HUMBER: US/10/782,596
CURRENT APPLICATION NUMBER: US/99/875,076
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches 284; Indels
1135 CCTCTACCATCACACACAGTCGGTCAGTATCTTCTTAA 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 686.6; DB 17;
Pred. No. 2e-209;
                                                                                                                         Sequence 13, Application US/10782596
Publication No. US20040137509A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 886; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-782-596-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
```

g à 셤 δ g $\overset{\circ}{\alpha}$ d ð g à 셤

840

```
TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGCCCCCAAATCGGTG 1020
                                                                                                                                                                            TGGIACAGCATIGCCTICTGGCTGCAAIGGTICAATICGTTTGTTAAICCCTTICTGTAC 1080
                                                                                                                                                                                                                                        CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
    TICTCCCAATCAGATTCTGTAGGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCC 918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      281 GATTTTGGAAAGGAATCTGTGTTTTTGGCTCACTACTGACTATCTGTTATGTACAGCA 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGAGATTAGCCAAGTCACTGGCCATTCTCTAGGGGTTTTTTGCTGTTTTGCTGGGCTCCA
                                                                                                                                                                                                  1039 TGGTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTCTTTGTAT
                                                                                                                                                                                                                                                                     1099 ccarrererezeaagecrircaaaagecrircircaaaarririgraraaaaageaa
                                                   AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41 Argccagaracrantadocacanchartrancacrascacroscrostracerrange
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                221 GACTICTITGIGGGGGGGGATCTCCATTGTACATCCCTCACAGGTGTTCGAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITATGICCITAGIAGCITITGCIATAATGCTAGGAAATGCTTTGGICATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G Protein-Coupled Receptors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                    1141 CCAGCGCTGTCACAGAAC---CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 686.6; DB 10;
Pred. No. 2.1e-209;
0; Mismatches 284;
                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/09852165
Fublication No. US20030032784A1
GENERAL INFORMATION:
APPLICANT: Lind, Peter
APPLICANT: Sejlitz, Torsten
APPLICANT: Sejlitz, Torsten
APPLICANT: Wood, Lindar
APPLICANT: Wood, Lindar
TITLE OF INVENTION: No. US20030032784A1e1 G
FILE REFRENCE: 00231regUS
CURRENT APPLICATION NUMBER: US/09/852,165
CURRENT FILING DATE: 2001-05-08
FRIOR APPLICATION NUMBER: USSN 60/203,108
FRIOR APPLICATION NUMBER: USSN 60/203,108
NUMBER OF SEQ ID NOS: 3
SOFTWARE: PATENTIN PATENTING DATE: 2000-05-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 75.1
Matches 886; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 1300
                                                                                                                                                                                                                                                                                                                                                                             RESULT 15
US-09-852-165-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-852-165-1
                                                   901
                                                                                  919
                                                                                                                 196
                                                                                                                                                                            1021
                      859
                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                          g
                                                                                                             à
                                                                                                                                      Пр
                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                             Dp
                                              \dot{\delta}
                                                                                                                                                                        ò
                                                                                                                                                                                                                                     \dot{\delta}
                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  618
                                                                                                                                                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421 ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                     09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACTICITIGEGGGGGGGGGARCICCATICCTTTGTACATCCCTCACACGCTGTTCGAATGG
                                                                                                                                                                                                                                                                                                           TTAATGTCTTCATTTGCCTTTTGCTATAGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                             25 ATGCCAGATACTAATÁGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT
                                                                                                                                                                                                                                                                                                                                                                      GACTICCICGIGGGITIGAITICCAITCCICTGIACAICCCICACGIGITGITIAACIGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --TGAAGGTAGTAGTGTGAATGTGAATTTTTTTCGGAATGGTACATCCTTGCCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                739 TCTGCATCGACAGAAGTTCCTGCATCCTTTCATTCAGAGAGACAGAGGAGAAGAGTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841 TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   445 Gracioscorrorradicaardescoardarrorastrocadescorrosades.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601 TGGAGCCTGTGGAAGCGTAGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              679 GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   799 CICAIGTITICCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGGAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                   Score 686.6; DB 10; Length 1266;
Pred. No. 2.1e-209;
0; Mismatches 284; Indels 9;
                                                                                                                    LOCATION: (25)..(1197)
COTHER INFORMATION: human TGR62 G-protein coupled receptor (GPCR)
US-09-891-138A-5
                                                                                                                                                                                     58.4%;
75.1%;
                                                                                                                                                                              Query Match
Best Local Similarity 75.1%
Matches 886; Conservative
              PatentIn Ver. 2.1
NUMBER OF SEQ ID NOS: 26
                                                          TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
         SOFTWARE: Pater
SEQ ID NO 5
LENGTH: 1266
                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                         85
                                                                                                                                                                                                                                                                                                                                                                                                     145
                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                   P
P
                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
```

2,

9

Length 1300;

100 120 160 180

```
961 TACTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021 TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTGGTTTGTTAATCCCTTTGTAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1055 TGGTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTCTTTTGTAT 1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTTTGTCTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTCTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781 ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC 840
                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                994
                                                                         480
                                                                                                516
                                                                                                                         540
                                                                                                                                                                                                                                                                                                                       874
                                                                                                                                                                                                                                                                                                                                                                                                                                                 934
                                                460
                                                                                                                                                574
                                                                                                                                                                        541 AIGCICIIGGAAIICCIGCIICCIGICAICICIGIGGCIIAIIICAAIGIACAGAIIIAC 600
                                                                                                                                                                                              575 TCATTCTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATTTAT 634
                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                694
                                                                                                                                                                                                                                                                        661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCCAGGACAAGTAAT 720
                                                                                                                                                                                                                                                                                              695 GTCTCTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGTTCTT 754
                                                                                                                                                                                                                                                                                                                                                814
                                                                                                                                                                                                                                                                                                                                       TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                          901 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGCTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        995 TATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTT
341 TCTGTATATAAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTG
                                                                                                                                       --TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCGA
                                                                         421 ATACTGGCTTTCTTGGTAAATGGCCCGGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                      461 GIGCTGGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGA----
                                                                                                                         481 ACGAACACAAAGGACTGTGAGCTTGGTTACAGAGTGGTACATCCTCACTTACA
                                                                                                                                                                                                                        601 TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                       TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                       CTCTACCATCACAACAGTCGGTCAGTATCTTTAA 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGCGCTGTCACAGAAC --- CAGTCAGTATCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                   875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                           721
                                                   401
                                                                                                                                                                                                                                                    635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                     QY
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                      ox ap ox ox
                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                 S
S
S
                                               qq
                            ð
```

Search completed: October 1, 2004, 16:02:43 Job time : 667 secs

us-10-626-445-5.rst

```
BX643713 DKFZp781C
CF147821 AGENCOURT
CB556920 AMGNNUC:U
CF147822 AGENCOURT
                                                             October 1, 2004, 11:11:14 ; Search time 3517 Seconds (without alignments) 9985.193 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                             l atgtcggagtctaacagtac.....accagtcagtatcttcttga 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                            55026578
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                   27513289 seqs, 14931090276 residues
                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                       - nucleic search, using sw model
                                                                                                                                                                                                                                                                                      summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BX643713
CF147821
CB556920
CF147822
                                                                                                                                                  IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     П
                                                                                                                                                                                                                                                                                                                                                                                em_htc:*
em_htc:*
em_htc:*
em_htc:*
gb_est1:*
gb_htc:*
gb_est3:*
gb_est5:*
em_estfun:*
em_estfun:*
em_estfun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          em_gss_fun.*
em_gss_mam:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_vri:*
em_gss_vri:*
ep_gss2:*
                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           em_gss_inv:*
em_gss_pln:*
em_gss_vrt:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13
14
14
                                                                                                         US-10-626-445-5
1176
                                                                                                                                                                                                                                                                                                                      em_estba:*
em_esthum:*
                                                                                                                                                                                                                                                                                                                                           em_estin:*
em_estmu:*
em_estov:*
em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        839
704
672
732
                                                                                                                                                                                                                                                                                                           EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37.3
36.3
11.5
                                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       438.6
426.4
135.8
133.8
                                       OM nucleic
                                                                                                                              Sequence:
                                                                                                                                                                                   Searched:
                                                                                                                                                                                                                                                                                                          Database
                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Result
```

CD3260 CC4813 AL84804 BES 675 BQ9565 BQ4565 BQ4685 BQ48585 BQ1855 BD10396	Ę.	TENTS TENTS THOC4) Homo sapiens cDNA clone The caniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo. Weil, B., Amid, C., Osanger, A., H.W., Weil, B., Amid, C., et al.) 64 Neuherberg, Germany clone insert Tolone insert S. Wiemann@Akfz- heidelberg.de; Trany) within the cDNA sequencing Project. available at the RZPD in Berlin.
CD326085 CC48131111848045 BF567596 BQ950659 BQ950659 BQ950659 BQ950659 BQ950659 BQ950659 BQ950659 BQ950659 BQ950659	B1119403 B1711453 B1731453 B1731453 B1731453 B1731453 B17319960 AU209762 BM35525 BM54865 BM548665 BM548665 BM548665 BM72810489 BM72812 CE291362 CM804122 AKO804122 AKO804122 AKO804122 AKO804122 BM728120 BM728120 BM728120 AKO804122 AKO804122 AKO804122 AKO804122 AKO804122 BM7388126 BM74899 BM7788120	ALIGNN 839 } yynonym sequency xates; mates; mates; mates; yourdata; mes, H.W. mes, H.W. iof the Molecul Email lden/Ge e. 139 is
40 000000000000000000000000000000000000	10 9 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	781 (syr mRNA se 478046 an) a; Chord a; Prima by) by) dwiema ahr,A., dstr.1, duence o mann, Mo mann, Mo mann, Mo derran, Mo mann, Mo mann, Mo mann, Mo mann, Mo mann, Mo mann, Mo pKFZ); E en (Hild German
88 9 9 4 0 4 0 6 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	696 890 890 890 890 946 1103 1035 1035 1035 1037	BX643713 DKFZP781C0629 r1 781 BX643713 BX643713.1 GI:344780 EST. BX643713.1 GI:344780 EST. BX643713.1 GI:344780 EST. BARMALIA: METAZOA; CAMMARMALIA: BALKA: MARMALIA: BALKA: MARMALIA: MARMALIA: BALKA: MARMALIA: CONSCITIUM OF THE GENT. NO SI SEQUENCE AVAILA: THIS CLORE (DKEZP781C)
	• • • • • • • • • • • • • • • • • • •	BX643713 DKFZP781C0629 BX643713 BX643713 BX643713.1 GI BST. HOMO Sapiens (Homo Sapiens (Homo Sapiens) Homo Sapiens (Laukaryota, Met Mammalia, Euth) 1 (bases 1 to Lauber, J., Bah FCbbo, G., Han, M EST (Lauber, J. Unpublished (2 Contact MPS MIPS Tingolstaedter Tinis is the 5' Clone from S. Research Cente Sequenced by Q Sequenced by Q Sequenced by O Se
98888877777	4,7 4,7 4,7 4,4,4 4,4,4 6,6 6,6 6,6 6,6 6,6	BX64: DKFZI DKFZI BX64:
20/00/01/25/45/0/01/05/01	0 0 0 0 0 0 0 10 0 0 0 0 0 0 0 0 0 0 0	RESULT 1 LOCUS LOCUS DEFINITION ACCESSION KEYWORDS SOURCE ORGANISM TITLE JOURNAL COMMENT

```
m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                source
            LOCUS
DEFINITION
                                                                                                         ORGANISM
                                                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                   ACCESSION
                                                                              KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
CF147821
                                                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 808
                                                                                                                                                                                                                                   <u>ب</u>
                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             571
                                                                                                                                                                                                                                                                                        155
                                                                                                                                                                                                                                                                                                                                             215
                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                   275
                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                       276 gáciriciringigagigigaicicairicciririgiacarccircacacacicricgaarad 335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            336 GATITITICAAAAGGAAATCIGIGIATITITIGGCICACIACIGACIATCIGITAIGIACAGCA 395
                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481 ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541 ATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   recaeccrerecaaecerearcarcrearagereceaaeccarccresacrear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661 ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  750 greterrecacare-reresacacacretresasaseracraterreasasarerer
 Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin- Charlottenburg, GERMANY, Email: clone@rzpd.de.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rcriaradaacrcaacaracresesrcrisaadarrerracreserseseseseseseses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -- rgaaggragrgaargrgaaccrggarrrrrrrrcggaarggracarccrrgccarcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            516 grecregecerrerradreaaregeceaarearrecracrireagacriredaagaa----
                                                                                                                                                                                                                                                                                                                   TTAATGTCTTCATTTGCCTTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                              GACTTCCTCGTGGGTTTGGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                              ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                        <u> Areccagaracraharaccacarcaarrirarcacraaccacregrerracriragearrir</u>
                                                                                                                                                                                                                                                                                                                                              TTTATGTCCTTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTT
                                                                                                                                                                                                                                                                                                                                                                         241 AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACGCA
                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                   7;
            Charlottenburg, GERMANY; Email: clone@rzpd.de
Location/Qualifiers
                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                           DB 13;
                                                                                                                                                                                                         Score 438.6; DB 13;
Pred. No. 7.7e-100;
0; Mismatches 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rcrecarcadaderrcriccarcerric 839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGGATTGAAGGAATCAGCTGCATCTCGTC 751
                                                         organism="Homo sapiens"
                                                                                                                                                                                                         a 37.3%; Similarity 75.9%; 70; Conservative (
                                                                                                                                                                                                                                      570;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                            96
                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                 156
                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                       216
                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                             Query Match
Best Local 3
                                                                                                                                                                                                                                      Matches
                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
```

g δ

g à

g ö Db δ qq δ d $^{\circ}$

ð

à

ð

a RESULT

```
/tissue_type="mixed"
/lab_host="mixed"
/lab_host="mixed"
/clone_lib="NIH MGC_145"
/clone_lib="NIH MGC_145"
/clone_lib="NIH MGC_145"
/note="Vector: pcpRA3.1; Site_1: varies by clone, Site_2:
varies by clone, ORFS were PCR-amplified and cloned into
pcpRA3.1 by the GPCR Consortium. Cloning sites vary by
clone and include the following: 5'-EcoRV-XmnI/Khol-3',
5'-EcoRV-XmnI/Khol-3', EcoRV (TA cloned, non-directional).
For information about which gene each clones represents,
please visit our anonymous ftp site at
ftp://image.llnl.gov/image/rearrayed_plates/IRBI.preSV.dat
a Note: this is a NIH_MGC Libbrary."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7
Homo sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      circrindidagicialiciachirccinigiachiccichcacacaciciircaahadah 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09
                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITIGGAAGIGGAAICIGCAIGITIIGGCICAIIACIGACIAICTITIGIGCACGCAIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63 AATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  geregacaaaaaccrragacarcgaagragragrrirrrrrrraacrregecarcreda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTICCICGIGGGITTGAITTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCAGATACTAATAGCACAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA Library Preparation: GPCR Consortium (CDNA) Library Preparation: GPCR Consortium (LLNL) CDNA Library Arrayed by: The I.M. A.G.B. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can be found through the I.M.A.G.B. Consortium/LLNL at: http://mage.llnl.gov b. column: 07
                                                                                                                                                                                                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                             Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       704;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36.3%; Score 426.4; DB 14;
.larity 77.0%; Pred. No. 9e-97;
Conservative 0; Mismatches 156;
                                                                                                                                                                                                                                                                                                                                                                                     Contact: Daniela S. Gerhard, Ph.D. Office of Cancer Genomics National Cancer Institute / NIH Bldg. 31 RAIDA07 Bethesda, MD 20892 Email: Capabbs-r@mail.nl.gov Tissue Procurement: GPCR Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .704
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    High quality sequence stop: 685.
Location/Qualifiers
                   CE14/821
AGENCOURT 14740195 NIH MGC_145 H
MMGE:6971900 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="IMAGE:6971900"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
1 (bases 1 to 704)
                                                                                                                                CF147821.1 GI:33244089
                                                                                                                                                                                 Homo sapiens (human)
                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
```

417 299 477 359 537 419

ò 셤 à q à d δ q

g à

ð 셤 à

```
/ Colour search and the colour sapered and the colour state of the colour sapered and the colour sapered and the colour sapered and colour state of the colour state o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST 25-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                538 CTCCTACAGGGCCCAGCAGGGGGACACGAGACGGCCGTTCGGAAGATGGCACTGGTGTG 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

    (bases 1 to 732)

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Office of Cancer General, Ph.D.

Office of Cancer Genemics

National Cancer Institute / NIH

Bldg. 31 RmloAr) Betheada, MD 20892

Email: cgapbs-remail.nih.gov

Tissue Procurement: GPCR Consortium

CDNA Library Preparation: GPCR Consortium

CDNA Library Arrayed by: The I.M.A.G.E. Consortium

Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

http://mage.llhl.gov

Plate: IRBIC2 row: b column: 06
                                                                       358 criccricardadigecriciadareccarraradaderacerandiacea de contra 
                                                                                                                                                                    298 GGCGGATTCGAGCCTCCGCACAGACAACAACTTCTTTCTGCTCAACCTCGCCATCTCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 GAATITIGGAAGIGGAAICIGCAIGITITGGCICATIACIGACIAICITITIGIGCACCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 GICTIAIAGGGCTCAACACACTGGCATCAIGAAGAITGTIGCTCAAAIGGTGGCTGITTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NIH-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CF147822
AGENCOURT_14740187 NIH_MGC_145 Homo sapiens cDNA clone IMAGE:6971899 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATT 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        598 GGTGCTGGCTTCCTGCTGTATGGGCCTGCCATCCTGAGTTGGGAGT 644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Daniela S. Gerhard, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      High quality sequence stop: 610.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CF147822.1 GI:33244090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CF147822
                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CF147822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                           \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CB556920 672 bp mRNA linear EST 02-APR-2003 AMGNNUC:URGP1-00001-D6-A urgp1 (14349) Rattus norvegicus cDNA clone urgp1-00001-d6 5', mRNA sequence.
                    362
                                                                                                           360
                                                                                                                                                                                                             422
                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                      423 ACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGCAC 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543 GCTCTTGGAATTCCTGCTTCTTCTCTGTGGCTTATTTCAATGTACAGATTTACTG 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACTAC 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                              535 ATICITIGGAATICGIGATCCCAGICATTAGICGCTIAITILIA
                                                                                                                                                                                                                                                      GAACACAAAGGACTGTGAGCCTTGGTTACAGAGTGGTACATCCTCACCATTACAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     475 TGAAGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCATC
TTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63 AATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             178 decedencia de decedencia de contra de decedente de decedencia de contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                238 CATGGGCTGCTCATCGTGGCCACAGTACTGGGCAACGCGCTGGTCATGCTCGCCTTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="taxon:10116"
/db_xref="taxon:10116"
/clone="urgpl-00001-d6"
/clone=lb="urgpl (14349)"
/note="Vector: pSPORT1; Rat GPCR library rearrayed internal pSPORT vector"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421 gcrigccricrinafiganiaggccanigaricragitricagagreringganga-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CICITCCACATC-TGTGGACACTCATTCAGAGGTAGACTATCTTTCAGGA 703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 14; Length 672;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11.5%; Score 135.8; DB 14; Length 57.2%; Pred. No. 2.2e-23; live 0; Mismatches 197; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          column: 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Norway rat)
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tel: 805 447-4881
Plate: 00001 row: d column
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Dan Fitzpatrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CB556920.1 GI:29496320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 672)
Amgen EST Program.
Amgen Rat EST Program
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Amgen, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CB556920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST.
                                                                                                                                                                                        363
303
                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local
Matches 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 3
CB556920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
```

рe

d ò

e 94

ð

g

ð

Match

Query

ORIGIN

136 123 196 183 256 240 316 300 376 360

g

Пþ ò 엄 ð Db ð d à

à

```
CC481311 684 bp DNA linear GSS 16-JUN-2003 CH240 309C10.T7 CHORI-240 Bos taurus genomic clone CH240_309C10, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BOS taurus
Bokaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
1 (bases 1 to 684)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          621 TIATCTGCTCTGCACCTCGTCTTCAACATCGTGCTCATCAGCTACGACAGGTTCAT 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         681 crerereacecesecrerearraceasereaseasaaraacasecesecarseaserr 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /dev stage="adult"
/lab_host="DH10B (phage-resistant)"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NHXCHD_XGC_EVel"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Fernologies: Note: This is a Xenopus Gene Collection (XGC) library.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              501 chaccidectarcicadarricringradereccidicarecererestararecera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGTGTTTGTTT---AACTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTCATCTTAGCCTTTGTGGTGGACAGAAACCTTAGACATCGAAGTAATTATTTTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          441 ĠĠrĊArGcrGĠĊrririgirgidadacrccagccrccaaacccagaaraarrerrcricr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAATTIGGCTATTICTGACTICCTCGTGGGTTTGATTICCATTCCTCTGTACATCCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTAICITITGIGCACCGCAICIGICIACAATAITGICCICATTAGCTACGATCGAIACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         342 GICAGITICAAAIGCIGIGICITAIAGGGCICAACACACIGGCAICAIGAAGAIIGIIGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGICCCCTIGGCATITITAAIGICTICATITIGCCTITGCTATAAIGGIAGGCAAIGCTGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTCTTCCTGGCTGTCCTGATGGGGGTCCTCATAGTTAGCACCGTGCTGGGGAATGCCCT
                                                                                                                                                                          þę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 402 TCAAATGGTGGCTGTTTGGATACTGGCTTTCTTGGTAAATGGCCCGATGATTCT 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     741 gaaaangaccangargradancridaccriricrccrarahaagaccaccarran 794
                              Tissue Procurement:

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov.

Plate: Limaye.lln.gov. f column: 24

High quality sequence stop: 707.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 853;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 129.2; DB 14;
Pred. No. 1.1e-21;
0; Mismatches 168;
                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
/clone="IMAGE:6949081"
Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:31760574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
11.0%;
Best Local Similarity 58.7%;
Matches 243; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 1. .853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bos taurus (cow)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CC481311.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CC481311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC481311
                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CD326085
AGENCOURT 14163426 NICHD XGC Eyel Xenopus laevis cDNA clone IMAGE:6949081 5', mRNA sequence.
                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          616 cacescriccacaciedadricriracececricicaecerentinainiraacereae 675
                                                                                                                                                                                                                                                                                                                                        135
                                                                                                                                                                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAATITITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGTGCACCTC 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   436 crcaraccedececaecaecaeareacaecedecedecaerecegaagarecreeredrere 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               égigciédecriteciderdracédaceacearecidaderigadanaecreréredédes 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGA-----TTCTTGGAA 473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          474 GAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              556 cacciccarccccacaccacidenarcccacircrarracaacidenaricar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATTACAATGCTCTTGGAATTCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    decedacreadecreedeacedadaacarerrerreeredecreadecreedea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTG---TTTAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCCAAATGGTGGCTGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                    GTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTT
                                                                                                                                                                                                                                                                                                                                        decidecidededededededededentrandedadecaradacodedadendentidadededent
                                                                                                                                                                                                                                                                                                                                                                                                                63 AAIGICITCATITGCCTITGCTATAAIGGTAGGCAAIGCTGTGGTCAICTIAGCCTITGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CATGGCGCTGCTCATCGTGGCCACGGTGCTGGCCACGCGCTGGTCATGCTCGCTTCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            criccicerceccerrerecarecearistargiaceracereceere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           créridectrochacarectercareactracaceacecerrecteres de case de contra de contra
                                                                                                                                                                                                Gaps
                                                                                                                                                                                                9;
                                                                                                                     Length 732;
                                                                                                                            DB 14;
               Note: this is a NIH MGC Library.
                                                                                                                        Score 133.8; DB 14;
Pred. No. 7.3e-23;
0; Mismatches 277;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Daniela S. Gerhard, Ph.D. Office of Cancer Genomics National Cancer Institute / NIH Bldg. 31 Rm10A07 Bethesda, MD 20892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CD326085.1 GI:31090416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xenopodinae; Xenopus.
1 (bases 1 to 853)
                                                                                                                            11.4%;
53.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              676 CATCTACCTGAACAT 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             594 GATTTACTGGAGCCT
                                                                                                                                                                      Best Local Similarity 53.5
Matches 329; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xenopus laevis
```

534

qq δ an

9 g ACCESSION VERSION KEYWORDS SOURCE ORGANISM

AUTHORS TITLE JOURNAL COMMENT

REFERENCE

LOCUS DEFINITION

RESULT 5 CD326085

420

Db à d à

1;

104

440 164 500

224

560 281 341

S

```
Email: trop@sanger.ac.uk
Sanger Xenopus tropicalis EST project 2001
Sanger Xenopus tropicalis EST project 2001
TROPICALIS_SEQUENCE_ID: TEGG022i22_plkSp6
Sequencing primer: SP6
This sequence is from a Xenopus Gene Collection (XGC) library
CONSTRUCTED by Aaron M. Zorn.
CONSTRUCTED by Aaron M. Zorn.
CONSTRUCTED trimed from 5ug of poly A+ RNA from egg.
BCORI.NoII cut cDNA was then ligated into pCS107 with EcoRI at the
Vector: pCS107, Site 1: EcoRI, Site_2: NotI
Host: Escherichia_coli_XL1-blue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               193 GGITTGAITTCCAITCCTCTGTACAICCCTCACGTGTTGTTT---AACTGGAATTTTGGA 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83 GGIGGATÍCTGCATCCACTCTATATCCCTTÁTGTGCTGACTGGCCAGTGGAAGTTTGGG 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              203 AATATTGTCCTCATCAGCTATGACAGGTTCATCTCAGTCACTAAAGCGGTGTCCTACAGA 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             370 GCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGGATACTGGCT 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                263 GCACAGAAAGGAATGACAAGAAATGCAGTGTTAAAAATGCTTATTGTTTGGTGGCAGCC 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             323 Trrcrrrrardecceaeccarcarcarcarcaranacarrecardeaecaecracrara 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               143 AAAGGCTIGIGCAAGTIGIGGCTAGTAATGGACTACCTTTTATGCACTGCTTCAGTTTTT 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              430 ITCTIGGTAAATGGCCCCGATGATTCTGGCTTCAGA-----TTCTTGGAAGAACAGCACG 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /uote="vector: pCS107; Site 1: EcoRI; Site 2: NotI; cDNA was oligo dT primed from 5ug of poly A+ RNA from egg. EcoRI-NotI cut cDNA was then ligated into pCS107 with EcoRI at the 5' end and NotI at the 3' end"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  443 ACAATAGAATTCTTTACTCCATTCATCATGTTACCTATTTCAATCTAAGCATCTACATT 502
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                              and Rogers, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              250 AGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCATCTGTCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                484 AACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                310 AATAITGICCICATIAGCIACGAICGAIACCAGICICAGITICAAAIGCIGIGICITAIAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  544 CTCTTGGAATTCCTGCTTCCTGTCATCTGTGGCTTATTTCAATGTACAGATTTACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              383 CCAGAAGGGGAATGTTATGTAGAATTCTACTACAACTGGTATTTTCTGATGATAGCTTCC
                                 Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Silurana.

1 (bases 1 to 643)
Croning,M.D.R., Ashurst,J.L., Taylor,R., Zorn,A.M. and Rogers, Sanger Xenopus tropicalis EST project 2001 (11_2003)
Unpublished (2003)
                                                                                                                                                                              On Sep 15, 2002 this sequence version replaced gi:22868310.
Contact: Taylor R
Sanger Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 99; DB 9; Length 643;
Pred. No. 4.4e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. 4.4e-14;
0; Mismatches 180; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /dev stage="egg"
/lab_host="Escherichia coli XLI-blue"
/clone_lib="XGC-egg"
/note="Vector: pCS107; Site_1: EccRI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Silurana tropicalis"
                                                                                                                                                                                                                                                         Hinxton, Cambridgeshire, CB10 1SA, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:8364"
/clone="TEgg022i22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 236; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAT 507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   604 AGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                             REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ਨੇ
                                                                                                                                                                                                                                                                                                                                                             Email: rholt@bcgsc.ca
Clones are derived from the bovine BAC library CHORI-240
(http://www.chori.org/bacpac/bovine240.htm). For BAC library
availability, please contact Pieter de Jong (pdejong@mail.cho.org).
Clones may be purchased from BACPAC Resources
(http://www.chori.org/bacpac/ordering information.htm). This work
was undertaken as part of the International Bovine BAC Mapping
Consortium (IBBMC) by CSIRO Livestock Industries, Australia and the
British Columbia Genome Sciences Centre, Canada.
Seq primer: T7
Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL848045 AGC-egg Silurana tropicalis cDNA clone TEgg022i22 5', mRNA sequence.
                                                                                                                                                       to 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260 racgiecrarariteritaricricaritrirircececericeaegrargarerecatice 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         270 GCTCATTACTGACTATCTTTTGTGCACCGCATCTGTCTACAATATTGTCCTCATTAGCTA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     380 GCTCACTACTGACTATCTTTTGTGTACAGCATCTGTGTATAACATCGTACTCATCAGCTT 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              320 IIIAITICATCCCICACAAGCICTICAACTGGGAGTTTGAAAAAAAACATTTGTGTCTTTTG 379
Holt.R., Stott,J., Yang,G., Barber,S., Smailus,D., Prabhu,A.-L.,
Butterfield,Y., Kirkpetrick,R., Lidu,J., Guin,R., Chan,A., Chiu,R.,
Mathewson,C., Wye,N., Masson,A., Brown-John,M., Jones,S.,
Schein,J., Marra,M., de Jong,P., McWilliam,S., Barris,W.,
Dalrymple,B.P. and Tellam,R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            150 TAATTATTTTTTTTTAATTTGGCTATTTCTGACTTCCTCGTGGGTTTGATTTCCATTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          210 TCTGTACATCCCTCACGTGTTTTAACTGGAATTTTGGAAGTGGAATCTGCATGTTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Gaps
                                                                                                                                                                                                                                                                                                    4E6
                                                                                                                                                                                                                                                              The British Columbia Cancer Agency Genome Science Centre 600 W. 10th Ave, Vancouver, British Columbia, Canada VSZ Tel: 604-877-6085
Fax: 604-877-6276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 29; Length 684;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              330 CGATCGATACCAGTTTCAAATGCTGTGTCTTATA 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         440 rgarcgararcagrcagrcraragcraragrcaaa 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.8%; Score 115.6; DB 29; ilarity 70.6%; Pred. No. 2.8e-18; Conservative 0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Silurana tropicalis (western clawed frog)
Silurana tropicalis
                                                                                                                                                                 Unpublished (2003)
Other GSSs: CH240 309C10.TARBAC13P2
Contact: Rob Holt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="genomic DNA"
/strain="breed: Hereford"
/db_xref="taxon:9913"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Bos taurus'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="CH240 309C10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:38559584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AL848045.2
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                 Sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Sim:
Matches 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
AL848045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DRIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
```

2;

Gaps

```
/clone="IMAGE:6311932"
/lab host="TH10B (phage-resistant)"
/lab host="TH10B (phage-resistant)"
/clone=lib="NHH MGC_129"
/note="Organ: olfactory epithelium; Vector: pCMV-SPORT6.1;
Site_1: EcoRV; Site_2: NotI; Cloned unidirectionally.
Site_1: EcoRV; Site_2: NotI; Cloned unidirectionally.
by ResGen, Site_0: Average insert size 2.2 kb. Constructed
by ResGen, Invitrogen Corp. Note: this is a NIH_MGC
Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BQ950659 1046 bp mRNA linear EST 21-AUG-2002
AGENCOURT_8863943 NIH_MGC_129 Mus musculus cDNA clone IMAGE:6311932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACC 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        488 resaccitrideccesescricificaascrististes estas esta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298 GCATCIGICTACAATATIGICCICATIAGCIACGAICGAIACCAGICAGITICAAAIGCI 357
                                                                                                                                                                                                                                                                                                                                                                         483 GAACACAAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACAAT 542
TITCITGGTAAATGGCCCCGAIGAITCIGGCTTCAGA-----TICITGGAAGAACAGCAC 482
                                                                                                                                                                                                                                                          298 chricchigchgrandschricching ag christian and christian and and christian and chris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccccaaggccacrigcrargcricaricracaacriggracrircricarcaggncrc 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  543 GCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGCTTATTTCAATGTACAGATTTACTG 602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cacccrcciacircricaccccrrcrcacciraccircricaaccrcacacarcracc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia; Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
1 (Dases 1 to 1046)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     þe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Susan L. Sullivan, PhD.
CDNA Library Preparation: ResGen, Invitrogen Corp
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information clond through the I.M.A.G.E. Consortium/LLNL at:
http://image.lln.gov
Plate: LlAM13736 row: k column: 05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7.5%; Score 88.6; DB 13; Length 1046; 61.6%; Pred. No. 2e-11;
ive 0; Mismatches 88; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               High quality sequence stop: 640.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="mRNA"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                478 GAACATCCAGAGGCGCA 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BQ950659.1 GI:22366137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCCTGTGGAAGCGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . . . 1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , mRNA Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30950659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local 9
                                                                        238
                                                                                                                                                                                  429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
BQ950659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                        g
                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain='sipsus-low-rey
/db xref="taxon:10116"
/clone="UI-R-B00-agr-c-06-0-UI"
/dlow stage="adult"
/lab_host="DH10B" (Life Technologies)"
/clone lib="UI-R-B00"
/note="Vector: pTT3D-Pac (Pharmacia) with a modified
/note="Vector: pTT3D-Pac (Pharmacia) with a modified
/note="Vector: pTT3D-Pac (Pharmacia) with a modified
polylinker: Site_I: Not I; Site_S: Eco RI; The library
(UI-R-B00) is a subtracted library derived from a mixture
of the following tissues: thalamus, cerebellum,
hypothalamus, medulla, pons, midbrain, cerebral cortex,
corpus striatum and hippocampus. For a detailed
description of the library from which this clone was
derived, please visit our web site at
ratest.eng.uiowa.edu. The subtraction has been previously
described in (Bonaldo, Lennon and Soares, Genome Research
6:791-806, 1996)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNA Library Preparation: M.B. Soares Lab Clone distribution: clones will be available through Research Genetics (www.resgen.com) This clone is also available through the I.M.A.G.E. Consortium at LINL (info@image.llnl.gov). IMAGE ID= 1796445 Seq primer: M13 Forward.
                                                                                                                                                                            BF567596
UI-R-BOO-agr-c-06-0-UI.rl UI-R-BOO Rattus norvegicus cDNA clone
UI-R-BOO-agr-c-06-0-UI 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  369 GGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGGATACTGGC 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        caacarceracricarcaecrareaceearrecrereacaercaercaeaererecreaeae 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTTAAC---TGGAATTTTGG 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            249 AAGIGGAAICIGCAIGIITIGGCICAITACIGACIAICIITIGIGCACCGCAICIGICIA 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                118 ccasasacriciacia de crasta de crasta de construcción de co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAATATTGTCCTCATTAGCTACGATACCAGTCAGTTTCAAATGCTGTGTTTATAG 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 499)

Bonaldo,M.F., Lennon,G. and Soares,M.B.

Normalization and subtraction: two approaches to facilitate gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             escriciscaricarianacenacinariandes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Soares, MB
Coordinated Laboratory for Computational Genomics
University of Iowa
375 Newton Road, 4156 MEBRF, Iowa City, IA 52242, USA
Tel: 319 335 9565
Email: bento-soares@ulowa.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 95.6; DB 10;
Pred. No. 3e-13;
0; Mismatches 190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Rattus norvegicus"
/mol_type="mRNA"
/strain="Sprague-Dawley"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genome Rês. 6 (9), 791-806 (1996)
97044477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                BF567596.1 GI:11677326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 54.5'
Matches 238; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            discovery
                                                                                                                                                                                                                                                                                                                                                              BF567596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8889548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         178
                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                         RESULT 8
BF567596
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
```

ORIGIN

qq

Db ð g ò

δ

ö

Ė

g ò

ð a

```
/done libe "CSEQRBN20"
//done libe normalized library was constructed from limilion independent clones. CDNA synthesis was initiated using an oligo(dT) primer, using methylated C in the first strand synthesis reaction. Following this first strand reaction, double stranded CDNA was blunted, ligated to NotI adapters, digested with ECORI, size selected, and cloned into the NotI and ECORI compatible sites of a custom modified MCS of the pBluescript (Ks) vector. The library was normalized in 2 rounds using conditions adapted from Soares et al., PNAS (1994) 91: 9228-9232 and Bonaldo et al., Genome Research 6 (1996): 791, except that a significantly longer reannealing hybridization was
                                                                                                                                                     1128
                                                                                                                                                                                                                                                                                                                                                                                                                          BU468854 130-NOV-2002 754 bp mRNA linear EST 30-NOV-2002 603373878F1 CSEQRBN20 Gallus gallus cDNA clone ChEST284119 5', mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota; Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianiae; Gallus.

1 (bases 1 to 754)

Boardman, P.E., Sanz-Ezquerro, J., Overton, I.M., Burt, D.W., Bosch, E., Fong, W.T., Tickle, C., Brown, W.R.A., Wilson, S.A. and Hubbard, S.J.

Curr. Biol. 12 (22), 1965-1969 (2002)
                                                 1009 CCCAAATCGGTGTGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAAT 1068
468 CCGACTAC----TGGTACGAGATAACCTTCTGGCTCCTGTGGCTCAACTCAGCCATCAAC
                                                                                                                                                                                       412 CCCTTCCTGTACCCGCTGTGCCACAGCCTTCCGGAGGGCTTTCTCCAAGATCCTGTGT
                                                                                                                                                1069 CCCTTTCTGTACCCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /sex="Male and female"
/tissue_type="Chondrocytes isolated from growth plate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Department of Biomolecular Sciences
University of Manchester Institute of Science and Technology
                                                                                                                                                                                                                                                1129 GTGACAAAGCAACCAGCGCTGTCACAGAACCAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                              352 ccchahagachgrcecrrchedrichancehagrceagrcergrinha 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 754;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="mRNA"
/strain="Layer and broiler"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PO Box 88, Manchester, M60 1QD, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'organism="Gallus gallus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 80.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: Simon. Hubbard@umist.ac.uk.
Location/Qualifiers
1. 754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:9031'
/clone="ChEST284119"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BU468854.1 GI:25962431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gallus gallus (chicken)
Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Simon Hubbard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cartilage"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tel: 01612008930
Fax: 01612360409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22335534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12445392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
BU468854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                          g
                                                                                                                                             ò
                                                                                                                                                                                    d
                                                                                                                                                                                                                                             à
                                         \delta
                                                                                                                                                                                                                                                                                         Tetrandon nigroviridis genome survey sequence T7 end of clone 206009 of library G from Tetrandon nigroviridis, genomic survey sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            - Web : www.genoscope.cns.fr)
This sequence is a single read and was generated as part of a large scale clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۲;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCTGGGCTCCATACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGC 1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (12-APR-2000) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FRANCE (B-mail : seqref@genoscope.cns.fr
- Web : www.qenoscope.cns.fr)
                    GIGTCTTATAGGGCTCAACACACAGGCATCATGAAGATTGTTGCTCAAATGGTGGTGGTT 417
                                                             GSS; genome survey sequence.

Tetraodon nigroviridis
Tetraodon nigroviridis
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetradontoidea; Tetraodontidae; Tetraodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        889 CITCICAGAGGCAGGAAGCIAGCCAGGICACIGGCCAICCIICIGAGCGCTITIGCCAII 948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      crerccasadacaaaadarrsccaaarcrcrssccarrarcsrcrsrarritressare 529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dasilva, C., Bouneau, L., Fisher, C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="206D09"
/clone lib="G"
/note="Genoscope sequence ID : C0AG206CB05LP1~end : T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Estimate of human gene number provided by genome-wide analysis using Tetraodon nigroviridis DNA sequence
Nat. Genet. 25 (2), 235-238 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Roest Crollius, H., Jaillon, O., Dasilva, C., Ozouf-Costaz, C., Fizames, C., Fischer, C., Bouneau, L., Billault, A., Quetier, F., Saurin, W., Bernot, A. and Weissenbach, J. Characterization and repeat analysis of the compact genome of freshwater puffertish Tetracdon nigroviridis

Genome Res. 10 (7), 939-949 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bernot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F., Saurin, W. and Weissenbach, J.
                                                                                                                                                                Length 921;
                                                                                                                 TGGATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. 3.5e-11;
0; Mismatches 114; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Tetraodon nigroviridis"
/mol_type="genomic DNA"
/db_xref="taxon:99883"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 87.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Roest Crollius, H., Jaillon, O.,
                                                                                                                                                                                                                                                                                                                                                                                           AL224547
AL224547.1 GI:7883412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7.4%;
ilarity 59.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 921)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 170; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genoscope
                                                                                                                                                                                                                                                                                                                                                                      sequence.
                                                                                                                                                                                                                                                                                    CNS03296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nat. Gene
20296633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10835645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10899143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20359837
                                                                                                                 418 '
                  358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                         LOCUS
                                                                                                                                                                                                                                                               CNS03296/c
                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                        RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
```

g ð

à

3;

Indels

Pred. No. 2.1e-09;

55.3%;

```
178; Conservative
                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11282978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AW654609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
AW654609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                    원
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                         ò
                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone libe "Meloidogyne hapla J2 pAMP1 v1"
/clone libe "Meloidogyne hapla J2 pAMP1 v1"
/clone libe "Mector: pAMP1 (Gibco); Site 1: Not!, Site 2: Sall;
The library was constructed by Claīre Murphy and Dr. James
McCarter at Washington University, St. Louis. The cDNA was
McCarter at Washington University, St. Louis. The CDNA was
made by using Dynabead oligo-dT priming (Dynal). PcR based
library using a modified protocol from the SMART PCR CDNA
Synthesis Kit from Clontech. Directionally cloned into the
Williamson of pAMP1. J2 were provided by Dr. Valerie
//williamson of the University of California at Davis
//wwwllliamsonGcdavis.edu)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BQ837058 1inear EST 09-JAN-2003
rf37e04.yl Meloidogyne hapla J2 pAMP1 vl Meloidogyne hapla cDNA 5'
similar to TR:Q9XW31 Q9XW31 Y40H4A.1 PROTEIN. [1] ;, mRNA sequence.
                                                                                                                                                                                       958 CCATACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCG 1017
                                                                                                                                                                                                                                                                                         1018 GTGTGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTG 1077
                                             1;
                                                                                                                                                                                                                                        218 ccararacriniagraargarrarrcgrogagccrocc---aaagroaargrocarrca 274
                                                                                                                                         158 GACAAGAATTGCAAAGTCACTTGCCATAATTGTGTGTGTTTTGCCATTTGCTGGGCC 217
                                                                                                                                                                                                                                                                                                                                       275 GIICICIAICAAAIIACCIIIIIGGCIIIIGGGAICAAIICCICICIGAACCCAIICCIC 334
                                                                                                                                                                                                                                                                                                                                                                                       1078 TACCCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAA 1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chromadorea; Tylenchida; Tylenchina;
                                                                                                                                                                                                                                                                                                                                                                                                                   335 TACCCTCTCTGTCATGATAAATTTCGAATGGCTTTTATGAAAATATTATGTGTCCCAAGAA 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryogs, Metazoa, Nematoda, Chromadorea, Tylenchida, Tylenchina, Tylenchoidea, Heteroderidae, Meloidogyninae, Meloidogyne.

1 (bases 1 to 505)

McDarter, J., Clifton, S., Chiapelli, B., Pape, D., Martin, J., Wylie, T., Dante, M., Marra, M., Hillier, L., Khoaba, T., Theising, B., Bowers, Y., Gibbons, M., Ritter, E., Bennett, J., Franklin, C., Tsagareishvili, R., Rohko, I., Kennedy, S., Magnire, L., Beck, C., Underwood, K., Steptoe, M., Allen, M., Person, B., Swaller, T., Harvey, N., Schurk, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R. and Wilson, R.
                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The Washington Univ. Nematode EST Project, 1999
Unpublished (1999)
Contact: McCarter JP
Washington Univ. Nematode EST Project, 1999
Washington University School of Medicine
Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: est@watson.wustl.edu
This clone will not be made available due to an unidentified
microbial contamination of the source material.
Seg primer: -40RP from Gibco
                                             ۳
.
                                                                                              898 GGCAGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCAT
                                             Indels
. No. 2e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Meloidogyne hapla"
                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         High quality sequence stop: 407.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="mRNA"
/db_xref="taxon:6305"
                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /dev_stage="J2"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BQ837058.1 GI:22141376
                                             147; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Meloidogyne hapla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Meloidogyne hapla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .505
                 Best Local Similarity
Matches 147; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BQ837058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BQ837058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                               ad
                                                                                                                                                                                               à
                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                           \delta
```

DB 13; Length 505;

Score 80.4;

6.8%;

Query Match

```
Tel: 402 762 4366
Fax: 402 762 4396
Email: smithdemail.marc.usda.gov
Single pass sequencing. Bases called and alt_trimmed with phred
v0.980904.e. Vector identified by cross_match with the -minscore 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 25-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Bovinae; Bos.

1 (bases 1 to Seese, W.M., Freking, B.A., Roberts, A.J., Stone, R.T., Casas, E., Wary, J.E., White, J., Cho, J., Fahrenkrug, S.C., Bennett, G.L., Heaton, M.P., Laegreid, W.W., Rohrer, G.A., Liang, F., Quackenbush, J. and Keele, J.W.
                                                                                                                                                                                           141 crerrecrearcrarresecrarricarricarricarcrarerrarararacescaa 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         201 ATGAGACTIGGACTITIGGTTATICTCTTIGTCAATICTGGCTCTGTATAGATTATTAA 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         261 rerecearecricascacreaarrigriarraarrascrirearasaracrirricrerra 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence evaluation of four pooled-tissue normalized bovine cDNA libraries and construction of a gene index for cattle Genome Res. 11 (4), 626-630 (2001)
                                                             TGGCATTTTTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCT
                                                                                                                                 21 TTGTAATTATTGGATTATTTTTTCTCATTAGCTACAACGATCGGGAATGCTCTTGTTATGC
                                                                                                                                                                                                                                                            81 TITCIAITITGIGITGATAAAAATIACAAACAATIAGCAATIAITITCTITITAG
                                                                                                                                                                                                                                                                                                                             173 CTATTICTGACTICCTCGTGGGTTTGATTTCCATTCCTC---TGTACATCCCTCACGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           230 IGTITAACTGGAATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AW654609 258 bp mRNA linear 104607 MARC 1BOV Bos taurus cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        USDA, ARS, US Meat Animal Research Center
PO Box 166, Clay Center, NE 68933-0166, USA
0; Mismatches 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /tissue_type="pooled"
/lab_host="DH10B"
/clone_lib="MARC_1BOV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Bos taurus"
/mol_type="mRNA"
/db_xref="taxon:9913"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seq primer: ATTTAGGTGACACTATAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FORWARD: AGGAAACAGCTATGACCAT
BACKWARD: GTTTTCCCAGTCACGACG
Plate: 96 row: K column: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               321 CCCGACCTTTAACTTACAGGCC 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               350 CAAATGCTGTGTCTTATAGGGC 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and -minmatch 12 options
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AW654609.1 GI:7420435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Smith TPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus (cow)
Bos taurus
```

σ

ORIGIN

DP ð

g à

 δ g ð g

```
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                 177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                       Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                               53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
DEFINITION
                                                                                                                                                                                                                                                                            Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BJ122942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HQB36551 410 bp mRNA linear EST 09-JAN-2003 rf47c11.yl Meloidogyne hapla J2 pAMPl v1 Meloidogyne hapla cDNA 5' similar to TR:Q9XW31 Q9XW31 Y40H4A.1 PROTEIN. [1] ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone lib="Meloidogyne hapla J2 pAMP1 v1"
/note="Vector: pAMP1 (Gibco); Site 1: NoTI; Site 2: SalI;
The library was constructed by Claire Murphy and Dr. James McCarter at Washington University, St. Louis. The CDNA was made by using Dynabead oligo-dT priming (Dyna)]. PCR based library using a modified protocol from the SMART PCR cDNA Synthesis Kit from Clontech. Directionally cloned into the UDG sites of pAMP1. J2 were provided by Dr. Valerie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            356
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCAC 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Nematoda; Chromadorea; Tylenchida; Tylenchina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 410)

McCarter, J., Clifton, S., Chiapelli, B., Pape, D., Martin, J.,
Wylie, T., Dante, M., Marra, M., Hillier, L., Kucaba, T., Theising, B.,
Bowers, Y., Gibbons, M., Ritter, E., Bennett, J., Franklin, C.,
Tragareishvili, R., Ronko, I., Kennedy, S., Maguire, L., Beck, C.,
Underwood, K., Steptoe, M., Allen, M., Person, B., Swaller, T.,
Harvey, N., Schurk, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M.,
McCann, R., Waterston, R. and Wilson, R.
/note="Vector: pCMV SPORT6; Site 1: Not1; Site 2: Sall; Library made from pooled tissue from lymph node, ovary, fat, hypothalamus, and pituitary."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              124 cercititacceaacceaecaecaecaeceeceaecaaecaeaaaaarecreer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64 crecretererreararececereareacerareacerrecretesencacesase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTGTCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         crisic contrade de contrado de la contrada del contrada del contrada de la contrada del la contrada de la contrada del la contrada de la contr
                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: est@watson.wustl.edu
This clone will not be made available due to an unidentified
microbial contamination of the source material.
Seq primer: -40RP from Gibco.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tylenchoidea; Heteroderidae; Meloidogyninae; Meloidogyne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gréderecrédenterretrandes de la contra del contra de la contra del la contra del la contra del la contra de la contra del la contra de la contra del la contra de la contra del contra del la co
                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                                                 Length 258;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       417 TIGGATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATT
                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The Washington Univ. Nematode EST Project, 1999
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The Washington Univ. Nematode EST Project, 1999
                                                                                                                                                                                                                                                            Score 80.2; DB 10;
Pred. No. 2.1e-09;
0; Mismatches 94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="Meloidogyne hapla"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:6305"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /dev_stage="J2"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BQ836551.1 GI:22140865
                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 59.1%;
Matches 136; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: McCarter JP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Meloidogyne hapla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Meloidogyne hapla
                                                                                                                                                                                                                                                                                                                                                                                                                                                               237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     357
                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
```

FEATURES

COMMENT

BQ836551

VERSION

```
..
H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BJ122942 BJ122942 unpublished oligo-capped cDNA library, C. elegans L1 stage camprhabditis elegans cDNA clone ykl293h04 5', mRNA sequence.
                                                                                                                                                                                                                                                                                         172
                                                                                                                                                                                                                                                                                                                                        140
                                                                                                                                                                                      IGGCATITITAATGICTICATITGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCT 112
                                                                                                                                                                                                                                                                                                                                                                                CTATITICIGACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGT 232
                                                                                                                                                                                                                                                                                                                                                                                                                          141 CIGTIGCIGALCITACTATIGGCCITATICCIATICCICITATGACTITATATACGGCAA 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kohara,Y., Shin-i,T., Thierry-Mieg,J., Thierry-Mieg,D., Suzuki,Y.
and Sugano,S.
                                                                                                                                                                                                                                   tróraartatrogartatrorororiadoradoradosarcosariodororiador
                                                                                                                                                                                                                                                                                  233 TIAAC---TGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        201 AIGAGACTIGGACTITIGGTTATICICITIGICAATICIGGCTCTGTATAGATTATITAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΰ
Williamson of the University of California at Davis (vmwilliamson@ucdavis.edu)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="whole animal"
/dev_stage="L1"
/clone_lib="unpublished oligo-capped cDNA library,
                                                                                                                                               ٠.
ع
                                                                                                Length 410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bukaryota, Metazoa, Nematoda, Chromadorea, Rhabditida,
Rhabditoidea, Rhabditidae, Peloderinae, Caenorhabditis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 75.8; DB 12; Length 523;
Pred. No. 3.1e-08;
                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Tadasu Shin-i
Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
Fax: 81-559-81-6855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A complementary view of the C.elegans genome Unpublished (2002)
                                                                                        6.7%; Score 78.8; DB 13;
55.0%; Pred. No. 5.1e-09;
iive 0; Mismatches 142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Caenorhabditis elegans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol type="mRNA"
/strain="N2"
/db_xref="taxon:6239"
/clone="yk1293h04"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tshini@genes.nig.ac.jp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /sex="hermaphrodite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350 CAAATGCTGTGTCTTATAGGGC 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 321 CCCGACCTTTAACTTACAGGCC 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 elegans L1 stage"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BJ122942,1 GI:18283081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 523)
                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .523
```

```
73 TTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGTGGTGGACAGA 132
                                    78 ircecarragrahcereaerregaharragaregrahegrahegrahaharegaen 137
                                                        133 AACCTTAGACATCGAAGTAATTATTTTTTTTTAATTTGGCTATTTCTGACTTCCTCGTG 192
                                                                      193 GGITTGALTTCCALTCCTCTGTACATCCCTCAC---GIGTTGALTTAACTGGAATTTTGGA 249
                                                                                                             3; Gaps
0; Mismatches 137; Indels
  Matches 171; Conservative
                                                                                                                                                                                                                     370 GCTCAACACAC 380
                                                                                                                                                                                                                                        378 CCTAGAGGAC 388
                                                                                                               Dp
                                                                                                                                       \delta
                                                                                                                                                     g
                                                                                                                                                                          ð
                                                                                                                                                                                               qq
                                      g
                                                           ò
                                                                           g
                                                                                             ò
                                                                                                                                                                                                                     ò
```

Search completed: October 1, 2004, 13:52:37 Job time : 3526 secs

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

OM nucleic - nuclei	OM nucleic - nucleic search, using sw model
Run on: Oct	October 1, 2004, 13:54:44; Search time 4880 Seconds (without alignments) 10444.961 Million cell updates/sec
Title: US-10 Perfect score: 1176 Sequence: 1 atg	US-10-626-445-5 1176 1 atgtcggagtctaacagtacaccagtcagtatcttcttga 1176
Scoring table: OLIGO_NUC Gapop_60.	OLIGO NUC Gapop ⁻ 60.0 , Gapext 60.0
Searched: 347	3470272 segs, 21671516995 residues
Word size : 0	
Total number of hit	Total number of hits satisfying chosen parameters: 6940544
Minimum DB seq length: 0 Maximum DB seq length: 200000000	th: 0 th: 200000000
Post-processing: Li	Post-processing: Listing first 45 summaries
Database : Ge 1: 2: 3: 3:	GenEmbl:* 1: gb_ba:* 2: gb_htg:* 3: gb_in:*

1. gdb ba:*
2. gdb_htg:*
4. gdb_htg:*
4. gdb_om:*
5. gdb_ov:*
6. gdb_ob:*
11. gdb_ph:*
11. gdb_ph:*
12. gdb_ph:*
13. gdb_un:*
14. gdb_ph:*
15. gdb_ph:*
16. gdb_ob:*
17. gdb_ph:*
18. gdb_ov:*
19. gdb_ov:*
11. gdb_sts:*
11. gdb_sts:*
12. gdb_sy:*
13. gdb_un:*
14. gdb_un:*
15. em_ba:*
16. em_tun:*
17. em_ba:*
18. em_tun:*
19. em_mu:*
22. em_ov:*
22. em_ov:*
23. em_pd:*
24. em_ph:*
25. em_ph:*
26. em_ov:*
27. em_sts:*
28. em_htg_inv:*
39. em_htg_lnv:*
31. em_htg_lnv:*
33. em_htg_lnv:*
34. em_htg_lnv:*
35. em_htg_lnv:*
36. em_htg_lnv:*
37. em_htg_lnv:*
38. em_htg_lnv:*
39. em_htg_lnv:*
39. em_htg_lnv:*
39. em_htg_lnw:*
40. em_htgo_lnw:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Score March Length DB ID			ж				
1176 100.0 1538 10 AF358859 AC131672 120 69.6 200346 2 AC131672 120 69.6 200346 2 AC131672 120 69.7 1291 A P8758868 AC1318386 2.2 1291 A P8758868 AC75381 2.2 1291 A P8758868 AC775381 2.2 1291 A R775381 AC775381 2.2 1.9 1173 AC775381 AC775381 2.2 1.9 1173 AC775381 AC775381 2.2 1.9 1173 AC775381 AC775381 2.3 1.9 1173 AC775382 AC775381 2.3 1.9 1312 AC77538 AC775381 2.3 1.9 1312 AC77538 AC775381 2.3 1.9 18438 AC77538 AC775381 2.3 1.9 18438 AC77538 AC775381 2.3 1.8 AC756 AC77538 AC775381 2.3 1.8 AC756 AC77538 AC775381 2.3 1.8 AC766 AC77723 AC7150631 2.3 1.8 AC766 AC77723 AC715063 2.3 1.8 AC766 AC77238 AC7063911 2.3 1.8 AC766 AC77238 AC7063911 3.8 AC706 AC706 AC70681 3.8 AC706 AC706 AC706 3.8 AC706	Result No.	Scor	Query		DB		ption
69.6 200346 2 AC131672 AC131672 67 5.7 1293 10 AP55846 AC18886 AC18886 67 5.7 1293 4 AB063300 AB653800 68 2.4 1193 4 AR05381 AX775381 72 1.9 1.9 4.9 11 AV75581 AX775381 73 1.9 1.13 6 AX775381 AX775381 74 1.9 1.13 6 AX709119 AX139113 75 1.9 1.17 6 AX139113 AX1391149 75 1.9 1.17 7 AX139113 AX1391149 75 1.9 1.17 7 AX139113 AX1391249 75 1.9 1.17 7 AX139124 AX139124 75 1.9 1.17 7 AX139124 AX139124 75 1.9 1.17 7 AX139124 AX139124 75 1.9 1.0 1.0 1.0 75 1.9 1.0 1.0 1.0 75 1.9 1.0 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.9 1.0 1.0 75 1.0 1.0 1.0		H	00	ä		AF358859	58859 Mus mus
67 5.7 1593 10 AF55886 AF55886 28 2.4 1291 4 AB053300 AF55886 26 2.2 1291 4 AB053300 AF55886 26 2.2 1291 4 AB053300 AF55886 22 1.9 173 6 AR34865 AR35886 22 1.9 1173 6 AR331860 AR340860 22 1.9 1173 6 AR331860 AR341865 22 1.9 1173 6 AR331860 AR341860 22 1.9 1173 6 AR301860 AR331860 22 1.9 1173 6 AX301763 AX301763 22 1.9 1173 6 AX301763 AX301763 22 1.9 1173 9 AR325356 AX301763 22 1.9 1173 9 AR04260 AX3017637 22 1.9		-	σ,	003		AC131672	9
67 5.7 23694 2 ACL18386 ACL18386 ACL18386 ACL18386 ACL18386 ACL18386 ACL18386 ACL18386 ACL18386 AR755381 AR35300 AR33300 AR333				-1		AF358860	38
2.6 2.7 1451 1 ABD53300 ABD53300 2.6 2.2 1451 10 ABD53300 ABD53300 2.2 1.9 123 6 AX75381 BV05616 2.2 1.9 1173 6 AX391860 AX39180 2.2 1.9 1173 6 AX19180 AX191119 2.2 1.9 1173 6 AX19119 AX191110 2.2 1.9 1173 6 AX19113 AX1301163 2.2 1.9 1173 6 AX19113 AX1301763 2.2 1.9 1173 6 AX1301763 AX1301763 2.2 1.9 1173 6 AX1301763 AX1301763 2.2 1.9 1173 6 AX1301763 AX1301763 2.2 1.9 1173 9 AX1307745 AX1301763 2.2 1.9 1173 9 AX130745 AX1301229 2.2 1.9 1173 9 AX130745 AX1301229 2.2 1.9 1173 9 AX144434 AX130123				366		AC118386	3386 Ratt
2.5 1451 10 AFP358858 AFP358858 2.2 1.9 1451 10 AR7142850 AR142850 2.2 1.9 1173 6 AR142850 AR142850 2.2 1.9 1173 6 AR1391860 AR192860 2.2 1.9 1173 6 AR139113 AR139113 2.2 1.9 1173 6 AR139113 AR139113 2.2 1.9 1173 6 AR139113 AR139113 2.2 1.9 1173 6 AR139113 AR1391113 2.2 1.9 1173 9 AR204249 AR1391113 2.2 1.9 1173 9 AR204249 AR30107913 2.2 1.9 1173 9 AR202449 AR30107913 2.2 1.9 1173 9 AR202849 AR30107913 2.2 1.9 1173 9 AR30684944 AR3068791 2.2 1.9<	r) \			V		AB053300	3300 8
22 1.9 223 6 AX775381 AX775381 22 1.9 1173 6 AX7928381 AX102119 22 1.9 1173 6 AX331860 AR341860 22 1.9 1173 6 AX331860 AX103113 22 1.9 1173 6 AX30163 AX103113 22 1.9 1173 6 AX301763 AX103113 22 1.9 1173 6 AX301763 AX103113 22 1.9 1173 6 AX301264 AX103113 22 1.9 1173 9 AY205356 AY328295 22 1.9 1173 9 AY306280 AY106745 22 1.9 1173 9 AX106745 AX106745 22 1.9 1173 9 AX106745 AX10674934 22 1.9 1173 9 AX106757 AX106757 23 1.9 1173 9 AX106757 AX106757 24 1.9 1112 9 AX106757 AX1067067	o i			σ,		AF358858	88888
BYOSELEGY BYOSELEGY	~ 0			223		AX775381	5381 Sequence
22 1.9 117.3 6 AR142850 AR142850 22 1.9 117.3 6 AR199113 AR3913160 22 1.9 117.3 6 AR199113 AR3913160 22 1.9 117.3 6 AR199113 AR3913160 22 1.9 117.3 9 AR201763 AR3017673 22 1.9 117.3 9 AR207973 AR30176745 22 1.9 117.3 9 AR207649 AR307645 22 1.9 117.3 9 AR207657 AR307645 22 1.9 117.3 9 AR3076577 AR30644934 22 1.9 117.3 9 AR3076577 AR30644934 22 1.9 1266 6 AX376577 AX3765370 22 1.9 1312 9 AR304229 AR3044934 22 1.9 1312 9 AR376537 AR3044934 22	D C			z o 1		BV056167	167
22 1.9 117.3 6 AR391860 AR391860 22 1.9 117.3 6 AX109119 AX109119 22 1.9 117.3 6 AX301763 AX139113 22 1.9 117.3 9 AF205956 AX301763 22 1.9 117.3 9 AF205956 AR307973 22 1.9 117.3 9 AF205956 AR307973 22 1.9 117.3 9 AF2069449 AR3079745 22 1.9 117.3 9 AF307973 AR307973 22 1.9 117.3 9 AF307973 AR3079745 22 1.9 117.3 9 AF308292 AR3079745 22 1.9 117.3 9 AF404934 AR306577 22 1.9 118.6 BD095598 AR301229 AR301229 23 1.9 118.6 BD095598 AR301229 AR301229 24<	η (┌,		AR142850	20 Seguenc
22 1.9 117.3 6 AX109119 AX109119 22 1.9 117.3 6 AX139113 AX139113 22 1.9 117.3 6 AX139113 AX139113 22 1.9 117.3 9 AF205356 AF207973 AX139113 22 1.9 117.3 9 AF205349 AX3017657 AX3017657 22 1.9 117.3 9 AY136745 AX136745 AX136745 22 1.9 117.3 9 AX136745 AX136745 AX136745 22 1.9 117.3 9 AX136745 AX136745 AX136745 22 1.9 117.3 9 AX13674 AX136757 AX136772 22 1.9 13.12 6 BD095598 BD095598 BD095598 BD095598 22 1.9 13.12 6 AX376577 AX2045343 AX376577 AX206576 22 1.9 140555 9<	, c			т,		AR391860	Sequence (
22 1.9 1173 6 AXX139113 AXX131763 22 1.9 1173 6 AXX01763 AXX01763 22 1.9 1173 9 AF225356 AF325456 22 1.9 1173 9 AF225356 AF325456 22 1.9 1173 9 AF225356 AF325456 22 1.9 1173 9 AF326745 AF326745 22 1.9 1173 9 AF326745 AF326745 22 1.9 1173 9 AF326745 AF326745 22 1.9 1173 9 AF3268292 AF3268745 22 1.9 1266 AX376577 AX376577 AX376571 22 1.9 1312 9 AB045370 AK376577 AX376577 22 1.9 1312 9 AK549343 AK376577 AX376577 22 1.9 140555 9 AR549343 AK3649343	∃ :			_		AX109119	Sequence
22 1.9 1173 6 AX301763 AX301763 22 1.9 1173 9 AF225356 AF307973 AF3079749 AF3076577 AF307677 AF30777 AF30777 AF30777	77.			rd 1		AX139113	Sequenc
22 1.9 1173 6 BD015847 BD015847 22 1.9 1173 9 AF225356 AF325356 22 1.9 1173 9 AF229449 AF329449 22 1.9 1173 9 AF329449 AF304949 22 1.9 1173 9 AF329449 AF304934 22 1.9 1265 6 AF376577 AF3186729 22 1.9 1312 6 AF316279 AF3464944 22 1.9 140555 9 AF316270 AF3464944 23 1.9 140555 9 AF316270 AF3464934 24 1.9 <td>F T</td> <td></td> <td></td> <td>1173</td> <td></td> <td>AX301763</td> <td>Seque</td>	F T			1173		AX301763	Seque
22 1.9 1173 9 AF2373973 AF325356 22 1.9 1173 9 AF225356 AF325356 22 1.9 1173 9 AF225356 AF325349 22 1.9 1173 9 AF326449 AF325345 22 1.9 1173 9 AF326745 AF326829 AF326829 22 1.9 1173 9 AF32672 AF326829 AF326822 AF326829 AF3268	14			1173		BD015847	Nove]
22 1.9 1173 9 AF725356 AF335356 22 1.9 1173 9 AF729449 AF329449 22 1.9 1173 9 AF329449 AF329449 22 1.9 1173 9 AF329829 AF329829 22 1.9 1173 9 AF329829 AF329829 22 1.9 1265 9 AB044934 AF301629 22 1.9 1300 6 AX376577 AX3701229 BD097512 22 1.9 1312 6 BD095598 BD095598 BD095598 22 1.9 1312 6 BD095598 BD095598 22 1.9 1312 6 BD095598 BD095598 22 1.9 1312 6 BD095598 BD095598 22 1.9 1312 9 AB045370 AK3012230 22 1.9 1404555 9 AC0007922 22 1.9 166206 2 AC0009668 22 1.9 166206 2 AC000568 23 1.9 166306 2 AC000567 24 1.9 166206 2	77			1173		AF307973	Ношо
22 1.9 1173 9 AF729449 AF339449 22 1.9 1173 9 AF729449 AF739449 22 1.9 1173 9 AF73645 22 1.9 1173 9 AF7368280 AY008280 22 1.9 1265 9 BD097512 BD097512 22 1.9 1265 6 AX376577 AX376577 22 1.9 1312 6 BD095598 BD095598 22 1.9 1312 9 AB045370 AX376577 22 1.9 1312 0 AB045370 AX376577 22 1.9 1312 0 AE712230 AF712230 22 1.9 140555 9 AC007922 22 1.9 166206 2 AC009668 AC009668 22 1.9 166206 2 AC009624 AC009669 22 1.9 166206 2 AC009624 AC009669 22 1.9 16638 2 AC009624 AC009669 22 1.9 16938 2 AC112372 AC112372 22 1.9 193779 2 AC009624 AC009669 23 1.9 193779 2 AC009624 AC006079 24 1.9 193779 2 AC009674 AC009669 25 1.9 166266 2 AC009669 AC009670 26 1.9 16838 2 AC1026630 AC006767 27 1.8 650 6 AX677239 AC006762 28 1.8 1050 6 E12845 29 1.8 62240 2 AC100874 20 1.8 62240 2 AC100874 21 1.8 62240 2 AC100874	16			1173		AF325356	Homo
22 1.9 1173 9 AY008280 AY008280 22 1.9 1173 9 AY108745 AY138745 22 1.9 1173 9 AX136745 AY208292 22 1.9 1267 6 BD097512 BD097512 22 1.9 1266 6 AX376577 AX376577 22 1.9 1310 6 AX376577 AX301229 22 1.9 1312 6 AX549343 AX301229 22 1.9 1312 6 AX549343 AX649343 22 1.9 1312 6 AX549343 AX649343 22 1.9 1312 6 AX549343 AX649343 22 1.9 140555 9 AC007922 22 1.9 140555 9 AC007922 22 1.9 164206 2 AC009244 22 1.9 16434 9 AC002507 22 1.9 16434 9 AC002507 22 1.9 16434 9 AC002507 23 1.9 16434 9 AC002604 24 1.9 16426	17			1173		AF329449	OMOH 6
22 1.9 1173 9 AV136745 22 1.9 1173 9 HSA298292 AA298292 22 1.9 1276 6 BD097512 BD097512 22 1.9 1266 6 AX376577 AX301229 22 1.9 1300 6 BAX376577 AX301229 22 1.9 1312 6 BD095598 BD095598 22 1.9 1312 6 BD095598 BD095598 22 1.9 1312 6 BD095598 BD095598 22 1.9 1369 9 AX549343 AX549343 23 1.9 13689 9 AX549343 AX649343 24 1.9 14000555 9 AC0007922 AC0009668 25 1.9 166206 2 AC0007922 AC0009668 26 1.9 166206 2 AC000567 AC0009668 27 1.9 166306 2 AC000247 AC0002476 28 1.9 166306 2 AC0002476 AC0002476 29 1.9 169438 2 AC1112372 AC0002476 20 1.9	18			1173		AY008280	0 Homo
22 1.9 1173 9 H58298292 BAJ298292 22 1.9 1265 9 AB044934 AR376577 22 1.9 1266 6 AX376577 AX301229 22 1.9 1312 6 BD095598 BD095559 22 1.9 1312 9 AB045370 AX301229 22 1.9 1312 9 AB045370 AX549343 22 1.9 3689 9 AX549343 AK549343 22 1.9 140555 9 AC007922 AC007922 22 1.9 166206 2 AC009668 AC009668 22 1.9 166206 2 AC009668 AC009668 22 1.9 166206 2 AC009668 AC009669 22 1.9 166206 2 AC009668 AC009669 22 1.9 167296 2 AC009674 AC0096792 22 1.9 16938 2 AC112372 AC0121237 22 1.9 193779 2 AC009244 AC0026077 22 1.9 193779 2 AC009674 AC0026077 22 1.9 193779 2 AC009678 AC0026077 22 1.9 193779 2 AC009677 AC0026077 22 1.9 193779 2 AC009677 AC0026077 22 1.9 16838 2 AC00677 AC0026077 22 1.9 193779 2 AC00677 AC0026077 23 1.8 867 6 AX677239 AX6726530 24 1.8 867 6 AX677239 AR8026630 25 1.8 1050 6 E12845 AC006811 21 1.8 62240 2 AC100874	19			1173		AY136745	Homo
22 1.9 1227 6 BD097512 BD097512 22 1.9 1266 5 AK376577 AK376577 AK376572 22 1.9 1300 6 AK371627 AK376577 AK376577 22 1.9 1310 6 BD095598 BD095559 BD095559 22 1.9 1312 6 BD095598 BD095559 BD095559 22 1.9 1312 6 BD095559 BD095559 BD095559 22 1.9 1312 6 BD095559 BD095559 BD095559 22 1.9 140555 9 AC007922 AC007922 AC007922 22 1.9 166206 2 AC007922 AC007924 AC0070244 22 1.9 16414 9 AC090244 AC000254 22 1.9 16414 9 AC007244 AC000254 23 1.9 16414 9 AC007244 AC00244	20		•	1173		HSA298292	Ношо
22 1.9 1265 9 AB044934 AB044934 22 1.9 1266 6 AX301229 22 1.9 1310 6 BD095598 22 1.9 1312 10 AX549343 22 1.9 13689 9 AF312230 22 1.9 140555 9 AF312230 22 1.9 166206 2 AC009668 22 1.9 166206 2 AC009668 22 1.9 166206 2 AC009668 22 1.9 166306 2 AC009678 22 1.9 16631 10 AL670670 22 1.9 16631 2 AC0092024 22 1.9 166348 2 AC002507 22 1.9 126343 2 AC0121624 22 1.9 126379 2 AC001327 22 1.9 229392 2 AC112372 22 1.9 16636 AX675299 21 1.8 6596 6 AX677239 21 1.8 6596 6 AX677239 21 1.8 1050 6 B12845 21 1.8 62240 2 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874	21			1227		BD097512	Novel
22 1.9 1266 6 MX376577 AX376577 22 1.9 1300 6 AX301229 BD095598 22 1.9 1312 9 AB045370 22 1.9 1312 9 AB045370 22 1.9 1312 10 AE045370 22 1.9 140555 9 AC007922 22 1.9 166206 2 AC007922 22 1.9 166206 2 AC009668 22 1.9 166206 2 AC009668 22 1.9 166306 2 AC009668 22 1.9 167296 2 AC009668 22 1.9 167296 2 AC009674 22 1.9 16944 9 AC090244 22 1.9 193779 2 AC003276 22 1.9 193779 2 AC003276 23 1.9 25561 2 AC112372 24 1.9 25561 2 AC121624 25 1.9 25561 2 AC121624 26 1.8 650 6 AX677239 27 1.8 650 6 AX677239 28 1.8 650 6 AX677239 29 AB009811 21 1.8 62240 2 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874 AC100874	22		•	1265		AB044934	Homo
22 1.9 1300 6 AX301229 BX301229 22 1.9 1312 6 BD095598 BD095598 22 1.9 3689 6 AX549343 22 1.9 3689 6 AX549343 22 1.9 140555 9 AF712230 22 1.9 140555 9 AC007922 22 1.9 166206 2 AC009668 22 1.9 1670670 AC009668 22 1.9 1670670 AC009668 22 1.9 1670670 AC009668 22 1.9 1670670 AC009668 22 1.9 167067 2 AC009668 22 1.9 16706 2 AC009668 22 1.9 167067 2 AC009674 22 1.9 18438 2 AC002476 AC002476 22 1.9 193779 2 AC00327 22 1.9 25561 2 AC121624 AC121624 22 1.9 25561 2 AC121624 AC121624 23 1.8 556 6 AX677239 AR060079 24 1.8 867 6 AX677239 AX677239 25 1.8 1250 9 AB029932S2 AB009811 21 1.8 62240 2 AC100874 21 1.8 62240 2 AC100874	23		•	1266		AX376577	Section
22 1.9 1312 6 BD095598 BD095598 BD095598 22 1.9 1312 9 AB045370 ASC49343 ASC70670 AS	24		•	1300		AX301229	AX301229 Semence
22 1.9 1312 9 AB045370 A8045370 A804520 A8045	25		•	1312		BD095598	BD095598 Novel cus
22 1.9 3689 6 AX549343 AX549343 AX549343 22 1.9 3689 9 AF312230 AF312230 AF712230 AF712230 AF712230 AF712230 AF712230 AF712230 AF712230 AF712230 AC007922 2 1.9 166206 2 AC0079668 AP002507 AC007925 2 1.9 16736 2 AP002476 AP002507 AP002507 AP002507 AP002476 AP0026476 A	26			1312		AB045370	AR045370 Homo sani
22 1.9 3689 9 AF312230 AF512230 22 1.9 140555 9 AC007922 22 1.9 166206 2 AC009668 22 1.9 169344 9 AC0020244 22 1.9 169349 2 AC0020244 22 1.9 189379 2 AC003276 22 1.9 1239379 2 AC01327 22 1.9 229392 2 AC112372 22 1.9 229392 2 AC112372 22 1.9 229392 2 AC112372 22 1.9 229392 2 AC121624 21 1.8 6596 6 AX677239 21 1.8 6596 6 AX677239 21 1.8 1250 9 AB0299282 2 AB0299382 2 1.8 1250 9 AB0299382 2 1.8 1260 2 AC100874 2 1.8 62240 2 AC100874 2 1.8 62240 2 AC100874	27		•	3689		AX549343	AX549343 Semience
22 1.9 91811 10 AL670670 AL670670 22 1.9 140555 9 AC007922 22 1.9 166206 2 AC009668 22 1.9 167296 2 AC009668 22 1.9 167296 2 AC009668 22 1.9 167296 2 AC009674 22 1.9 169144 9 AC090244 22 1.9 193779 2 AP001327 22 1.9 193779 2 AP001327 22 1.9 225392 2 AC112372 22 1.9 2253561 2 AC121524 21 1.8 505 9 AE435588 21 1.8 650 6 AX677239 21 1.8 667 6 AX677239 21 1.8 67 6 AX677239 21 1.8 67 6 AX677239 21 1.8 62240 2 AC100874 21 1.8 62240 2 AC100874 21 1.8 62240 2 ACI00874	28			3689		AF312230	AF312230 Homo sani
22 1.9 140555 9 AC007922 AC007922 22 1.9 166206 2 AC009668 AC009668 22 1.9 166226 2 AC009668 AC009668 22 1.9 169144 9 AC090244 AC090244 22 1.9 169149 2 AC090244 AC090244 22 1.9 193779 2 AC01237 AC01237 22 1.9 255561 2 AC112372 AC112372 22 1.9 255561 2 AC112624 AC01237 AC112372 21 1.8 696 6 AX677239 AX677239 AX677239 21 1.8 696 6 AX677239 AX677239 AX677239 21 1.8 1050 9 AB02993282 AB029931 21 1.8 62240 2 AC10874 AC100874 22 1.9 100874 AC100874				91811		AL670670	AL670670 Mouse DN
22 1.9 166206 2 AC009668 AC009668 HORO 22 1.9 167296 2 AP002507 AC009668 HORO 22 1.9 1651249 3 AC00244 AP002507 HORO 22 1.9 1651249 3 AC00244 AP00244 HORO 22 1.9 1681438 2 AP001327 AC002476 HORO 22 1.9 129379 2 AP001327 AC012372 AC112372 AC112624 AC121624				4		AC007922	ACOUTED Homo cari
22 1.9 167296 2 AP002507 AP002507 HOWO 22 1.9 168144 9 AC090244 AC090244 AC090244 HOMO 22 1.9 168144 9 AC090244 AP002476 AC09024 HOMO 22 1.9 193779 2 AP001327 AP001327 HOMO 22 1.9 193779 2 AP001327 AC112372 AC112372 HOMO 22 1.9 255561 2 AC112372 AC112372 AC112372 Ratt. 21 1.8 505 9 AR435588 AF00079 AF0060079 AF0060079 AF0060079 AF0060079 AF0060079 AF0060079 AF0060079 AF0060079 AF00729 Sequence of the control				9		AC009668	HOHO
22 1.9 169144 9 ACO90244 Homo 22 1.9 169144 9 ACO90244 Homo 22 1.9 193779 2 AP002476 AP002476 Homo 22 1.9 193779 2 AP002476 AP002476 Homo 22 1.9 193779 2 ACU12372 ACU12372 Ratt. 21 1.8 52561 2 ACI12624 Ratt. 21 1.8 696 6 AX677239 AX677239 AX677239 AX677239 AX677239 Sequ. 21 1.8 696 6 AX677239 AX677239 Sequ. 21 1.8 1050 6 E12845 CDNA 6: 1250 9 AB0293382 AB0293382 AB0293382 AB0293382 AB0293381 Homo 21 1.8 62240 2 ACI00874 Homo 21 1.8 62240 2 ACIO0874 Homo 21 1.8 62240 2 ACIONATS				9		AP002507	O E O
22 1.9 184938 2 AP002476 AP002477 Homo 22 1.9 184938 2 AP001327 AP002476 Homo 22 1.9 229392 2 AL112372 ACT121624 ACT121624 ACT121624 ACT21624 ACT2162630 ACT21				9		AC090244	Die Ch
22 1.9 193779 2 AP001327 AF001337 AP001337 Homo 22 1.9 228392 2 AC112372 AC112372 AC112372 Ratt-21 1.8 255561 2 AC112372 AC112372 Ratt-21 1.8 505 9 AF435588 AF435588 Homo 21 1.8 696 6 AK77239 AK77239 AK77239 AK77239 AK77239 AK77239 AK77239 AK77239 AK77239 AF000075 Seque 21 1.8 1050 6 E12845 AR026630 BE12845 CDNA 6: 21 1.8 7019 9 AR029931 CDNA 6: 21 1.8 62240 2 AC100874 Homo 21 1.8 62240 2 AC100874 Homo AC100874 Homo AC100874 Homo AC100874 Homo				œ		AP002476	
22 1.9 229392 2 AC112372 AC112372 AC112372 Rattices and the second of th				6		AD001327	TOMOUND 175
22 1.9 255561 2 ACIZ1624 ACIZ1624 RACUZ 21 1.8 55561 2 ACIZ1624 ACIZ1624 RACUZ 21 1.8 505 9 AR435588 ACIZ1624 AB060079 CNYCI 21 1.8 696 6 AX677239 AX677239 AX677239 Sequi 21 1.8 1050 6 AZ677239 AR026630 BI2845 CDNA 62 1 1.8 1250 9 AB029923S2 AB029933 HOMO 21 1.8 62240 2 ACIO0874 HOMO 21 1.8 62240 2 ACICOR74 HOMO ALICAMAENTS						AC112372	TOTAL TOTAL
ALLIELEZA MACIELEZA MACIONA MA				a u		AC112372	Kattus
21 1.8 505 9 AF435588 AF43558 Homo 21 1.8 65240 5 AE00079 Cryci AE050079 Cryci AE050079 Cryci AE050079 Cryci AE050079 Cryci AE050670 Cryci AE050670 Cryci AE050670 Cryci AE050670 Cryci AE050670 Cryci AE050974 AE050974 Homo 21 1.8 62240 2 AC100874 Homo ALIGNMENTS				า		AC121624	Katt
ALIGNMENTS				0 10		ABUBUU / 9	oryc
ALIGNMENTS 21 1.8 67 6 AA677239 AA677239 Seque 21 1.8 867 6 AA026630 AR026630 AR026630 Seque 21 1.8 1050 6 E12845	7 4			000		AF43538	S88 HOMO
21 1.8 867 6 AR026630 AR026650 Seque 21 1.8 1050 6 E12845 E12845 CDNA en 21 1.8 1250 9 AB0293282 AB029931 HOWD 21 1.8 62240 2 AC100874 AC100874 HOWD ALIGNMENTS	4.			969		AX677239	239 Segu
21 1.8 1050 6 E12845 E12845 CDNA en 21 1.8 1250 9 AB029932S2 AB02993 HOMO 21 1.8 7019 9 AB009811 AB0009811 HOMO 21 1.8 62240 2 AC100874 AC100874 HOMO ALIGNMENTS	41			867		AR026630	0
21 1.8 1250 9 AB029932S2 AB029933 Homo 21 1.8 7019 9 AB009811 AB009811 Homo 21 1.8 62240 2 AC100874 AC100874 Homo ACIONENTS	42			1050	9	S	10
21 1.8 7019 9 AB009911 AB009911 Homo 21 1.8 62240 2 AC100874 AC100874 Homo ALIGNMENTS	43			1250		99328	933 Homo
21 1.8 62240 2 AC100874 AC100874 Homo s ALIGNMENTS	44			7019		981	9811 Homo
	45				7	0087	874 Homo s
						O THE PROPERTY OF THE	
						ALLGMENTS	

	AF358859 1538 bp mRNA linear ROD 02-SEP-2001	lus histamine F	AF358859 AF358859.1 GI:15420534		Mus musculus (house mouse)	Mus musculus	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Mammalia; Eutheria; Rodentia; Sciuroquathi; Muridae; Murinae; Mus.	1 (bases 1 to 1538)	Liu, C., Wilson, S., Kuei, C. and Lovenberg, T.W.	Comparison of human, mouse, rat, and quinea piq histamine H4	receptor suggests substantial species variation	
RESULT 1 AF358859	LOCUS	DEFINITION	ACCESSION VERSION	KEYWORDS	SOURCE	ORGANISM			REFERENCE	AUTHORS	TITLE		

```
Mus musculus chromosome UNK clone RP23-314021, WORKING DRAFT SEQUENCE, 4 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                              1021 TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAAGGGAAGGCCCCAAATCGGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genome Sequencing Center, 4444 Forest Park 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4444 Forest Park
                                                                                                                                                                       840
                                                                                                                                                                                                   900
                                                                                                                                                                                                                                    900
                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Musinae; Mus
                                                                                                                                                                                           901 TICTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                            961 AGGAAGCTAGCCAGGTCACTGGCCATCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTGTAC
                                                                 AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                              TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                          TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTAATCCCTTTCTGTAC
ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                    TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Submitted (25-AUG-2002) Genome Sequencing Center, 4444 For Parkway, St. Louis, MO 63108, USA
3 (bases 1 to 200346)
Wilson, R.K.
Direct Submission
Submitted (06-NOV-2003) Genome Sequencing Center, 4444 For Parkway, St. Louis, MO 63108, USA
On Nov 6, 2003 this sequence version replaced gi:22475584.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center: Washington University Genome Sequencing Center Center code: WGSSC Web site:http://genome.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGCCCTGTCACAGAACCAGTCAGTATCTTCTTGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCGCTGTCACAGAACCAGTCAGTATCTTCTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequence of Mus musculus clone Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 (bases 1 to 200346)
McPherson, J.D. and Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC131672.2 GI:38194370
HTG: HTGS PHASE1; HTGS DRAFT.
Mus musculus (house mouse)
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wilson, R.K.
                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                             781
                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                  721
                                                                                                                                                                            781
                      661
                                                    661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC131672/c
LOCUS
DRPTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                        g
                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                     ð
                                                  à
                                                                               d
                                                                                                                  ò
                                                                                                                                                                            ð
                                                                                                                                                                                                                          /note="G-protein-coupled receptor"
/codon_start=1
/producf="histamine H4 receptor"
/protein_id="AA87380.1"
/db_xref="G1:15420535"
/translation="MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDR
NLRHSSNYFELNALSDFLVG11SIPLYIPHVLFNWRFGSGICMFWLITDYLLGTASV
YNIVLISYDRYQSVSNAVSYRAQHTGIMKIWAQMVAYWILASDSWKNS
                                                                                                                                                                                                                                                                                                                                               TUTKOCEPGEVTEWYILTITMLLEFLLEVISYAYFNYOIYWSIWKRRALSRCPEHAGE
STTSSSASGHLHRAGYACRTSNPGLKESAASRHSESPRRKSSILVSLRTHMNSSITAF
KVGSFWRSESAALRQREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRT
ERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILCVTKOPALSQNQSVSS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
    2 (bases 1 to 1538)
Liu, C., Wilson, S., Kuei, C. and Lovenberg, T.W.
Direct Submission
Submisted (12-MAR-2001) Molecular Pharmacology, The R.W. Johnson
Pharmaceutical Research Institute, 3210 Merryfield Row, San Diego,
CR 92121, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rettatagggeteaacacactggcatcatgaagartgtrgcreaaatggrggetgttrgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGCTCTTGGAATTCCTGCTTCCTGTCATCTGTGGCTTATTTCAATGTACAGATTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Arecrerredabarrecrecriterererererererererererarrerareragarrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGAACACAAAGGACTGTGAGCCTGGCTTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rraarcretricarridecriractaraargeraggeaargergregrearerrageerrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTTCCTCGTGGGTTTGATTTCCATCTTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACTTCCTCGTGGGTTTGATTTCCTTCTTGTACATCCTTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 10; Length 1538;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                               k; Score 1176; L
k; Pred. No. 0;
0; Mismatches
                                                                                                                           1. .1538 /organism="Mus musculus" /mol_type="mRNA" /strain="BALB/c" /db xref="taxon:10090"
                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.0%;
Matches 1176; Conservative 0;
                                                                                                                                                                                                             .1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                        source
           JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                  CDS
                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
```

ò 셤 à dd δ g ð g δ g ð qq

g $\overset{\sim}{\circ}$ 엄 ò dd

ð

g

 δ

à

m

93120

957

1077

93300

93240

```
93239 TCCTTCTGGCGATCGGAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCTCAGA 93180
                                                                                                                                                                                                                                                                                                                                                                                                                                                  93119 CCATACTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGGCCCCAAATCG 93060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92999 TACCCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAG 92940
                                                                                                                                                                                                                                                                                                                                                                                                                          CCATACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAATCG 1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACCCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAG 1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ROD 02-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein id="AAK97381.1"
|db_xref="GI:15420537"
|translation="MSESNGTDVLPLTAQVPLAFLMSLLAFAITIGNAVVILAFVADR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (bases I to 1593)
Liu,C., Wilson,S., Kuei,C. and Lovenberg,T.W.
Direct Submission
Submitted (12-MAR-2001) Molecular Pharmacology, The R.W. Johnson
Pharmaceutical Research Institute, 3210 Merryfield Row, San Diego,
CA 92121, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
                            658 ACTACCTCTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGT
                                                                                                                           93299 AGCATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGT
                                                                                                                                                                                                                                                                                                                                                                1018 GIGIGGIACAGCATIGCCTICIGGCIGCAAIGGIICAAIICGIIIIGIIAAICCCIIIICIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93059 drdrddracaccarrecerreregeracaargerreaarregrraarrecerrrere
                                                                                      AGCATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGT
                                                                                                                                                                                                                                                       TCCTTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGA
                                                                                                                                                                                                                                                                                                                                        898 GGCAGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 1593)
Liu,C., Wilson,S., Kuei,C. and Lovenberg,T.W.
Comparison of human, mouse, rat, and guinea pig histamine H4
receptor suggests substantial species variation
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus histamine H4 receptor mRNA, complete cds.
AF358860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAACCAGCGCTGTCACAGAACCAGTCAGTATCTTCAA 92901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAACCAGCGCTGTCACAGAACCAGTCAGTATCTTCAA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="G-protein-coupled receptor"
/codon_start=1
/product="histamine H4 receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .1593
/organ18m="Rattus norvegicus"
/mol_type="mRNA"
/strain-"Sprague-Dawley"
/db_xref="taxon:10116"
36. .1211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1593 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF358860.1 GI:15420536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF358860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus.
                                                                                    718
                                                                                                                                                                     778
                                                                                                                                                                                                                                                       838
                                                                                                                                                                                                                                                                                                                                                                                                                             958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 3
AF358860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
                                       임
                                                                                                                         qq
                                                                                  ò
                                                                                                                                                                   ઠે
                                                                                                                                                                                                            음
                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93599 AGCACGAACACAAAGGACTGTGAGCCTGCCTTTGTTACAGAGTGGTACATCCTCACCATT 93540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAATGCTCTTGGAATTCCTGCTTCCTGTCTCTGTGGCTTATTTCAATGTACAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACAAIGCTCTIGGAAIICCIGCTICCIGICAICLIGIGGCTIAITICAAIGIACAGAII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GIGICITATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGATACTGGCTTTCTTGGTAAATGGCCCCGATGATTCTGGCTTCAGATTCTTGGAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACTGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                NOTE: This is a 'working draft' sequence. It currently consists of 4 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                         Sequencing vector: M13; 0%
Sequencing vector: plasmid; 100%
Chemistry: Dye-primer BT; 0% of reads
Chemistry: Dye-primer BT; 0% of reads
Chemistry: Dye-terminator B19 Dye; 100% of reads
Assembly program: Phrap; version 0.990319
Consenus quality: 199211 bases at least Q40
Consensus quality: 199521 bases at least Q30
Consensus quality: 199715 bases at least Q20
Insert size: 199000; agarose-fp
Insert size: 199909; sum-of-contigs
Quality coverage: 13.37 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69.6%; Score 819; DB 2; Length 200346;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 56: contig of 56 bp in length
156: gap of unknown length
17 1270: contig of 1114 bp in length
1 1370: gap of unknown length
185906: contig of 84536 bp in length
17 200346: contig of 114340 bp in length
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note="assembly_name:Contig10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              157. .1270
/note="assembly_name:Contig11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_name:Contig16"
86007. .200346
/note="assembly_name:Contig17"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Prec. ....
------ Project Information
                                                            ----- Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .200346
/organism="Mus musculus"
/mol_type="genomic DNA"
/db_xref="taxon:10090"
/chromosome="UNK"
                   Center project name: M_BA0314021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="RP23-314021"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1371. .85906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1
157
1271
1371
85907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
les 819; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
```

ð g ð g 8 Dp à

DRIGIN

```
The Chases I to 236694)

Muzny, D. Marie., Metzker, M. Lee., Abramzon, S., Adams, C., Alder, J., Alsbrooks, S., Amin, A., Anguiano, D., Angulano, D., Angulano, D., Angulano, D., Angulano, D., Bandaranaike, D., Barber, M., Barnetead, M., Benahmed, F., Brown, R., Blark, D., Blankenburg, K., Blyth, P., Brown, M., Blankenburg, K., Blyth, P., Brown, M., Bryant, N., Buhay, C., Barber, M., Calderon, E., Cardenas, V., Carter, K., Cavazos, I., Ceasar, H., Center, A., Checko, J., Cheo, R., Chen, Y., Chere, Y., Chen, Y., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 236694 bp DNA linear HTG 15-NOV-2002 ***, 3 unordered pieces.
AC118386
                                TNTEECEPGFYTEWYILAITAFLEFILPVSLVVYFSVQIYWSLWKRGSLSRCPSHAGF
IATSSRGTGHSRRTGLACRTSLPGLKEPAASIHSESPRGKSSLLVSLRTHMSGSIIAF
KVGSFCRSESPVLHQREHVELLRGRKLARSLAVLLSAFAICWAPYCLFTIVLSTYRRG
YSIVLISYDRYQSVSNAVRYRAQHTGILKIVAQMVAVWILAFLVNGPMILASDSWKNS
                                                                                                                                                  ERPKSIWYSIAFWLOWFNSLINPFLYPLCHRRFOKAFWKILCVTKOPAPSOTOSVSS"
                                                                                                                                                                                                                                                                                                                                                                                                                              230 IGITTAACTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       265 TGTTTAACTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                     0; Gaps
                                                                                                                                                                                                                                                                    5.7%; Score 67; DB 10; Length 1593;
100.0%; Pred. No. 4e-24;
trive 0; Mismatches 0; IndelB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AC118386.4 GI:25013229
HTG; HTGS PHASE1; HTGS DRAFT; HTGS_ENRICHED.
Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 236694)
                                                                                                                                                                                                                                                                                                                                                     67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         290 TGTGCAC 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325 rerecad 331
                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AC118386/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
```

VERSION

LOCUS

qq

g à

ò

```
Submitted (15-NOV-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
Baylor Plaza, Houston, TX 777030, USA
On Nov 15, 2002 this sequence version replaced gi:23812823.
The sequence in this assembly is a combination of BAC based reads and whole genome shotgun sequencing reads assembled using Atlas and whole genome shotgun sequencing reads assembled using Atlas in the feature table below represents a scaffold in the Atlas assembly (a 'contig-scaffold'). Within each contig-scaffold, individual sequence contigs are ordered and oriented, and separated by sized gaps filled with Ns to the estimated size. The sequence contigs within a contig-scaffold that consist entirely of whole genome shotgun sequence reads. Both end sequences and whole genome shotgun sequence only contigs will be indicated in the feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

NOTE: This is a 'working draft' sequence. It currently consists of 3 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (17-APR-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
Shetty, J., Shvartsbeyn, A., Sisson, I., Sitter, C.D., Smajs, D., Sned, A., Sodergren, E., Song, X.-Z., Sorelle, R., Sosa, J., Stefande, M., Strong, R., Sutton, A., Svatek, A., Tabor, P., Taylor, C., Taylor, T., Thomas, N., Thomas, S., Tingey, A., Trejos, Z., Usmani, K., Valas, R., Vera, V., Villasana, D., Waldron, L., Walker, B., Wang, O., Wang, S., Warren, J., Wari, X., White, F., Wang, C., Wailson, R., Wheczyk, R., Wooden, H., Worley, K., Wright, D., Wright, R., Wu, J., Yakub, S., Yen, J., Yoon, L., Yoon, V., Yu, F., Zhang, J., Zhou, J., Zhou, K., Zhao, S., Dunn, D., von Niederhausern, A., Weiss, R., Smith, D.R., Holt, R.A., Smith, H.O., Weinstock, G. and Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Assembly program: Phrap; version 0.990329
Consensus quality: 175902 bases at least 040
Consensus quality: 179521 bases at least 030
Consensus quality: 181489 bases at least 020
Estimated insert size: 182948; sum-of-contigs estimation
Quality coverage: 5x in Q20 bases; sum-of-contigs estimation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             217900: contig of 217900 bp in length 218000: gap of unknown length 234816: contig of 16816 bp in length 234916: app of unknown length 236694: contig of 1778 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center code: BCM
Web site: http://www.hgsc.bcm.tmc.edu/
Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center: Baylor College of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Rattus norvegicus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center project name: GUEK
Center clone name: CH230-397N16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 (bases 1 to 236694)
Rat Genome Sequencing Consortium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
1. .236694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -- Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished
2 (bases 1 to 236694)
                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             218001
234817
234917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
```

us-10-626-445-5.olig.rge

```
132 AAACCTTAGACAICGAAGTAATTATT 159
                                                                                                                                                                                                                                                     201 AAACCTTAGACATCGAAGTAATTATTT 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101. .1270
/note="G-protein-coupled
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   362 TTTTGGCTCATTACTGACTATCTTTT 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ďq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             265 TTTTGGCTCATTACTGACTATCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                              AF358858.1 GI:15420532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon start=1
                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1, .1451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CA 92121, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 26; Conserv
                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX775381
                                                                                                                                                                     Local br...
28;
                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                   Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                 RESULT 6
AF358858
                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
AX775381
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                             190285 IGTTTAACTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT 190226
                                                                                                                                                                                                                                                                                                                                                                                                                ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB053300 1291 bp mRNA linear MAM 21-MAY-2002 Sus scrofa mRNA for histamine H4 receptor, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (08-JAN-2001) Shunichiro Matsumoto, Yamanouchi Pharmaceutical Co., Ltd., Institute for Drug Discovery Research; 21 Miyukigaoka, Tsukuba, Ibaraki 305-8585, Japan (E-mail:matsumotoyamanouchi.co.jp, Tel:81-298-54-1610,
                                                                                                                                                                                                                                                                                                                                                                                                                                               289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Oda, T., Matsumoto, S., Masuho, Y., Takasaki, J., Matsumoto, M., Kamohara, M., Saito, T., Ohishi, T., Soga, T., Hiyama, H., Matsushime, H. and Furuichi, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA cloning and characterization of porcine histamine H4 receptor Biochim. Biophys. Acta 1575 (1-3), 135-138 (2002) 22015261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTTTAACTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                               .;
0
                                                                                                                                                                                                                                                                                                                                                                              Length 236694;
                                                                                                                                                                                                                                                                                                                                                                           5.7%; Score 67; DB 2; Le
llarity 100.0%; Pred. No. 2.9e-24;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
/product="histamine H4 receptor"
/protein_id="BAB83078.1"
                                                                                                                                                              .210237)
                                                                                                                                                                                                                            end_sequence:BZ179483"
210891. .213141
/note="wgs_end_extension
clone_end:Sp6"
                                                                                                                                                                                                                                                                                                            /note="wgs_end_extension
clone_end:Sp6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 (bases 1 to 1291)
Matsumoto, S., Oda, T. and Saito, Y.
Direct Submission
                                          /note="wgs contig"
2310 .3895
/note="wgs contig"
103725 .105993
/note="wgs contig"
12092 .122993
/note="wgs_contig"
/note="wgs_contig"
/note="clone_boundary
/db_xref="taxon:10116"
/clone="CH230-397N16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Sus scrofa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /mol_type="mRNA"
/db xref="taxon:9823"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="spleen"
54. 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fax:81-298-52-5444)
Location/Qualifiers
                                                                                                                                                                                                                                                                                            .217900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB053300.1 GI:18147216
                                                                                                                                                                                             clone_end:Sp6
                              .1087
                                                                                                                                                                                                                                                                             clone en
216516.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           190225 TGTGCAC 190219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sus scrofa (pig)
                                                                                                                                                                                                                site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTGCAC 296
                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
les 67; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AB053300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12020829
                                misc_feature
                                                               misc_feature
                                                                                               misc_feature
                                                                                                                              misc_feature
                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                            230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           290
                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 5
AB053300
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
```

```
SVYNIVLISFDRYQSVSNAVSYRTQHTGILKIVALMVGWWILAFIVHGPVILVSEAWK
QGKQDCEPGFIKEWYVLATTLFFEFLAPVILVAFRNIYTWSIWKRGFILSRCQSHCGI
TPVSGSWGHSFRCGILSRYSLSDPKEAAASLHSERPRKKSTIWFSLIRTRSSLITASN
KGFLSHSBLALHQFERLIELIRARKARSLAILLGYFAICMAPYSLITIRSYYPTHP
FPSTAVYKFAFWLQWPNSCVNPFLYPLCHKRPQKAFIKIFCLKKQSTLSHNRSYSS"
/translation="msaindTnTnTLPLnTRlataftMSLLaLVIMLGNAVVILAFVV
DKNLRHRSNYFLLNLAISDFFVGVISIPLYIPHTLFKWKLEDNICAFWLIDYLLCTA
                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ROD 02-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /trānslation="Mlannstialtsikislipelmslialaimlcnvvvilafiydrn
LRHRSNYFFINLAIADFFVGAIAIPLYIPSSLTYWTSGKQACVFWLITDYLLCTASVY
NIVLISYDRYQSVSNAVWYRAQHSGTWKIATQMVAVWIFSFMTNGPMILISDSWQNST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TECEPGFLKKWYFALPTSLLEFLIPILLVAYFSAH1YWSLWKREKLSRCLSHPVLPSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSSSDHGHSCRQDPDSRATLPARKETTASLGSDKSRRKSSLLFSIRAYKNSNVIASKM
GFLSHSDSLALQQREHIELFRARKLAKSLAILLAAFAICWAPYSLTTVIYSFFPERNL
TKSTWYHTAFWLQWFNSFVNPFLYPLCHKRFQKAFLKILPVRRQSTPPHNRSIST"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAT 09-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 (bases 1 to 1451)
Liu.C., Wilson,S., Kuei,C. and Lovenberg,T.W.
Direct Submission
Submitted (12-MAR-2001) Molecular Pharmacology, The R.W. Johnson
Pharmaceutical Research Institute, 3210 Merryfield Row, San Diego,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia. (bases 1 to 1451)
Liu,C., Wilson,S., Kuei,C. and Lovenberg,T.W.
Comparison of human, mouse, rat, and guinea pig histamine H4
                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF358858 1451 bp mRNA linear ROD 0.
Cavia porcellus histamine H4 receptor mRNA, complete cds.
AF358858
                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1451;
                                                                                                                                                                                                                                                                            2.4%; Score 28; DB 4; Length 1291;
100.0%; Pred. No. 0.0036;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="histamine H4 receptor"
/protein_id="AAK97379.1"
/db_xref="G1:15420533"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 26; DB 10;
Pred. No. 0.042;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.2%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cavia porcellus (domestic guinea pig)
Cavia porcellus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Cavia porcellus"
/mol_type="mRNA"
/db_xref="taxon:10141"
```

ö

```
PAT 18-DEC-2003
                                                                                                                                                                                                                                                                                                                PAT 08-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 1173)
Behan, J.X., Hedrick, J.A., Laz, T.M., Monsma, F.J., Morse, K.L., Umland, S.P. and Wang, S.
Polynucleotide encoding a histamine receptor
Patent: US 6204017-A 1 20-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unclassified.
1 (Dases 1 to 1173)
Behan, J.X., Hedrick, J.A., Laz, T.M., Monsma, F.J., Morse, K.L., Umland, S.P. and Wang, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.9%; Score 22; DB 6; Length 1173; 100.0%; Pred. No. 6.1; o; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1173;
                                                                                                           DB 11; Length 849;
6.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                 0; Indels
/db_xref="taxon:10090"
/map=". X 27-768 11720021-11719276"
/clone_lib="CZECHII/Ei"
<1. .>849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 22; DB 6;
Pred. No. 6.1;
                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Preu. ...
                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Histamine receptor
Patent: US 6613533-A 1 02-SEP-2003;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                              AR142850 1173 bp
Sequence 1 from patent US 6204017.
AR142850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AR391860 1173 bp 173 cgquence 1 from patent US 6613533. AR391860 GI:40115588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="unknown"
/mol_type="genomic DNA"
                                                                                                           Query Match 1.9%; Score 22; Best Local Similarity 100.0%; Pred. No. Matches 22; Conservative 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960 TCTGTTCACAATTGTCCTTTCA 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960 TCTGTTCACAATTGTCCTTTCA 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                        266 GCTTCCTGTCATCTCTGTGGCT 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                     558 GCTTCCTGTCATCTCTGTGGCT
                                                                                                                                                                                                                                                                                                                                                                      AR142850.1 GI:15104136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .1173
                                                                                                                                                                                                                                                                                                                                                                                                                                            Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                         STS
ORIGIN
                                                                                                                                                                                                                                                                               RESULT 9
AR142850
                                                                                                                                                                                                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR391860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                       à
                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BV056167 1.0 ara 849 bp DNA linear STS 31-MAY-2003 S212P6390FD12.TO CZECHII/Ei Mus musculus STS genomic, sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 849)
Wade, C.M., Kulbokas, E.J. III, Kirby, A.W., Zody, M.C., Mullikin, J.C.,
Lander, E.S., Lindblad-Toh, K. and Daly, M.J.
The mosaic structure of variation in the laboratory mouse genome
Nature 420 (6915), 574-578 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      as STSs and 81,000 SNPs were annotated with alleles from C57BL/6J and the Strain from which the particular read came. The validation rate for these SNPs was estimated at approximately 98%.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WGS-discovery: Paired-end low-coverage whole genome shotgun reads where generated from 12981/SyrInd, '23H/Had, and BALIA/GBYJ. The WGS reads were placed uniquely on the WGSCV3 C57BL/6J assembly and SNP detection was carried out by SSAHA-SNP. 225,000 reads were
                                                                                                               Eukaryota; Metazoa, Chordata, Craniata, Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Whitehead Institute for Biomedical Research, Center for Genome
                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                        DB 6; Length 223; 6.8;
                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                320 Charles Street, Cambridge, MA 02141, USA Tel: 6172521477
Fax: 6172580903
Email: kersli@genome.wi.mit.edu
Primer A: None
                                                                                                                                                              Raponi,M.
Methods for assessing and treating leukemia
Patent: WO 03038129-A 697 08-MAY-2003;
Ortho-Clinical Diagnostics, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                      1.9%; Score 22; DB 100.0%; Pred. No. 6.8 ive 0; Mismatches
   Sequence 697 from Patent WO03038129
                                                                                                                                                                                                                                                                                                   /mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"

    .223
    /organism="Homo sapiens"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="genomic DNA"
/strain="CZECHII/Ei"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Kerstin Lindblad-Toh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         197 TCTGTTCACAATTGTCCTTTCA 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                  966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tagged site.
BV056167
BV056167.1 GI:31171962
                      AX775381
AX775381.1 GI:32486897
                                                                            Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Primer B: None
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STS size: 849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12466852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protocol
                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
   DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
BV056167
                                                                                                                                                   REFERENCE
                                                                                                                                                                      AUTHORS
                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                              SOURCE
```

à g ö

;

0;

KEYWORDS SOURCE ORGANISM

REFERENCE AUTHORS JOURNAL

TITLE

DEFINITION ACCESSION

VERSION

RESULT 11 AX109119 LOCUS

```
PAT 27-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PC C12N15/09, A61K38/00, A61K39/395, A61K39/395, A61K39/395, A61K19/09, A61K38/00, A61F31/00, A61F31/00, A61F31/00, A61F31/00, A61F31/00, A61F31/00, A61F31/00, A61F31/00, A61F31/02, A61F31/00, A61F31/00, A61F31/02, A61F31/02, A61F31/03, A61F3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1173)
Peter, B. and Olaylee, M.A.
Novel: polypeptide
Patent: JP 2001211889-A 1 07-AUG-2001;
                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C12P21/02,C12Q1/02,G01N33/15,G01N33/50,G01N33/53//C12P21/08,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ...1173 /organism='Homo sapiens (human)'. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.9%; Score 22; DB 6; Length 1173;
100.0%; Pred. No. 6.1;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 1.9%; Score 22; DB 6; Length 1173; Best Local Similarity 100.0%; Pred. No. 6.1; Matches 22; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                      Jones, P.G., Blatcher, M., Wu, S. and Pausch, M.H.

Human histamine h 4? receptor
Patent: WO 0185786-A 1 15-NOV-2001;

American Home Products Corporation (US)
Location/Qualifiers
1. 1173
| organism="Homo sapiens" | mol_type="unassigned DNA" | db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (human)
JP 2001211889-A/1
07-AUG-2001
27-CCT-2000 JP 2000329359
29-CCT-1999 GB 9925641:4,20-APR-2000 GB
PETER, MARK ANTONY OLAYLEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .1173
/organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1173 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960 rererreacaarrereerrea 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BD015847.1 GI:22556984
JP 2001211889-A/1.
Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C12N15/00,
A61K37/02,C12N5/00
Novel polypeptide
                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel polypeptide.
BD015847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BD015847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OS
PN
PD
PF
PR
BEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSSSEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                 source
                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 14
BD015847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
KEYWORDS
                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
                                                                                                    PAT 30-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PAT 30-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT 30-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                   Behan, J.X., Hedrick, J.A., Laz, T.M., Monsma, F.J., Morse, K.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.9%; Score 22; DB 6; Length 1173; llarity 100.0%; Pred. No. 6.1; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1173;
                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peter, B. and O'Reilly, M.A.
G-protein coupled receptor-like polypeptide
Patent: EP 1096009-A 1 02-MAY-2001;
Pfizer Limited (GB); PFIZER INC. (US)
1..1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.9%; Score 22; DB 6;
100.0%; Pred. No. 6.1;
tive 0; Mismatches
                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
                                                                                                                                                                                                                                                                                                                                                                                          Umland, S. and Wang, S.
Histanine receptor
Patent: WO 0125432-A 112-APR-2001;
SCHERING CORPORATION (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1 from Patent BP1096009.
AXI39113
AXI39113.1 GI:14274791
                                                                                                 AX109119 1173 bp
Sequence 1 from Patent WO0125432.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AX301763 1173 bp
Sequence 1 from Patent W00185786.
AX301763 AX301763.1 GI:17382844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AX109119.1 GI:13924093
                                                                                                                                                                                                                                   Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                               Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
```

LOCUS DEFINITION

RESULT 12 AX139113

Matches

ð

ORIGIN

ACCESSION VERSION

KEYWORDS

SOURCE

ORGANISM

REFERENCE AUTHORS

JOURNAL

PEATURES

DRIGIN

·.

LOCUS DEFINITION ACCESSION VERSION

RESULT 13

AX301763

δ

```
/cocn.=catcar
/product="histamine H4 receptor"
/protein id="AAG32052.1"
/db xref="G1:11141733"
/translation="MPDTMSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDK
NLRHRSSYFFLMIAJSDFFVGVISIPLYIPHTLFEWDFGKEICVFWITTDYLLCTASV
YNIVLISYDRYLSVSNAVSYRTGHTGVLKIVTLWVAVWVLAFLVNGPMILVSESWKDE
GSBCEPGFFSEWYILATISFLEFVIPVILVAFRNMNIYWSLWRRDHSRQSHGTA
VSSNICGHSFRGRLSSASTERPVASFHSERQRRKSSLMFSSRTKMNSNTIASKM
GSFSQSDSVALHQRENVELLRARRLAKSLAILLGVFAVVWAPYSLFTIVLSFYS
RSSVAVRIAFWLQMFNSFVNPLLYPLCHKRFQKAFLKIFCIKKQPLPSQHSRSVS"
                                                                                            AF307973 1173 bp mRNA linear PRI 14-NOV-2000
Homo sapiens histamine H4 receptor mRNA, complete cds.
AF307973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
1.9%; Score 22; DB 9; Length 1173;
Best Local Similarity 100.0%; Pred. No. 6.1;
Matches 22; Conservative 0; Mismatches 0; Indels

    1173
/note="G protein coupled receptor"
/codon_start=1

AF307973.1 GI:11141732
                                                                                                                                                                                  Homo sapiens (human)
Homo sapiens
                                                                                                                                                      VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                       DEFINITION
ACCESSION
                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                           RESULT 15
AF307973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                            LOCUS
                              g
```

Search completed: October 1, 2004, 17:38:46 Job time : 4885 secs 960 TCTGTTCACAATTGTCCTTTCA 981

966 TCTGTTCACAATTGTCCTTTCA 987

à

ö

Gaps

0;

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.	OM nucleic - nucleic search, using sw model	October 1, 2004, 13:52:44; Search time 857 Seconds (without alignments) 5829.499 Million cell updates/sec	US-10-626-445-5 1176 1 atgreggagtctaacagtacaccagtcagtatcttctga 1176	OLIGO NUC Gapop_60.0 , Gapext 60.0
	OM nucleic - nuc	Run on:	Title: Perfect score: Sequence:	Scoring table: OLIGO NUC Gapop_60.0

6747726 Total number of hits satisfying chosen parameters: Minimum DB seq length: 0 Maximum DB seq length: 200000000

3373863 seqs, 2124099041 residues

0

Word size Searched:

Post-processing: Listing first 45 summaries

N_Geneseq_29Jan04:* geneseqn2001as:* geneseqn2001bs:* geneseqn2003as:* geneseqn2003bs:* geneseqn1980s:* geneseqn1990s:* geneseqn2004s: geneseqn2000s:* geneseqn2002s:* geneseqn2003cs: 8: 9: 10: Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Farnesyl
Human DNA
Human H4
Human H4
Human G P
Human G P
Human GPC
Human G PC
Human H S Rat hista Mouse his Mouse his Guinea pi Mouse his Human cDN Human cDN Human GPR Human DNA Mouse his Description Aai70981 M Aai70992 M Aai70992 M Aai70993 M Aa685481 M Aa685123 M Aad55124 M Aad55124 M Aad55124 M Aad55124 M Aad65126 M Aad78739 M Aai70990 M Aai70990 M Aai70990 M Aai70990 M Aai70990 Mai7090 M Aai70990 Mai7090 Mai7090 Mai70990 Mai70990 Mai7090 Mai7090 Mai7090 Mai7090 Mai7090 Mai7090 Mai7090 Mai7090 Mai7090 Mai70900 Mai7090 Mai7090 Mai70900 Mai7090 Mai70900 Mai70900 Ma SUMMARIES AA170983 AA170983 ADE85481 AAS98150 AAD55123 AAD55124 AAD55126 AAI70981 AAI70982 AAI70992 AAI70991 ABZ80663 ABQ78739 AA166009 AAS98078 AAD01124 AAF83203 ABS57063 ACA93262 AAH24007 AAI70980 Query Match Length DB 39 223 540 1103 1166 1170 30 29 1170 1173 1173 Score Result No. 22200987465 22200987465 32200987465 O

Aad55125 Human H4		,		Abz42573 Human his	Aca56909 Human cDN	Aat09949 High-affi	Aat60593 Melatonin	Abk84798 Human cDN	Aai80580 Human pol	Aas42963 DNA encod	Aca56900 Human cDN	Aca56899 Human cDN	Aaf25245 Nucleotid	Aax05747 Human mel	Aat09950 High-affi	Aca56837 Human sig	Aat09948 High-affi	Aad37667 Human G-p	Abz42686 Human mel	Add69423 Chicken A	Continuation (9 of
AAD55125	ABK12959	ABA02496	AAH47911	ABZ42573	ACA56909	AAT09949	AAT60593	ABK84798	AA180580	AAS42963	ACA56900	ACA56899	AAF25245	AAX05747	AAT09950	ACA56837	AAT09948	AAD37667	ABZ42686	ADD69423	AAZ01425_08
œ	9	9	4	۲	7	Ŋ	~	9	4	4	7	7	4	ď	C)	7	~	9	7	σ	0
1265	1266	1300	1312	3689	969	867	1050	220895	348	536	693	693	867	1053	1085	1085	1149	1326	2049	46022	110000
1.9	1.9	1.9	1.9	1.9	1.8	1.8	٠	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
22	22	22	22	22	21	21	21	21	50	20	20	20	20	20	20	20	20	20	20	20	20
24	25			28				32	33	34	35	36	37	38	39	40	41	42	43	44	45
										υ										υ	

ALIGNMENTS

RESULT 1

Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; ss. BP. Mouse histamine H4 receptor cDNA (ORTH) ORTHO-MCNEIL PHARM INC AAI70981 standard; cDNA; 1176 22-FEB-2001; 2001WO-US005914. 31-MAY-2000; 2000US-0208260P. entry) (first Lovenberg T, Liu C; WPI; 2002-114339/15 WO200192485-A1. Mus musculus 18-MAR-2002 06-DEC-2001. AAI70981; AAI 70981

New mammalian histamine H4 receptor proteins and polynucleotides encoding the proteins, useful in gene therapy for treating diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. P-PSDB; AAM50565.

Claim 4; Fig 5A; 92pp; English.

The present sequence is that of a cDNA clone encoding a murine histamine receptor of the H4 subtype. The cDNA was isolated from a mouse spleen cDNA library. It shows 72.8% homology to the human H4 receptor coding region. The invention provides mammalian (human, mouse, rat and quined pig) histamine H4 receptor nucleic acid molecules (see AAI70980-83) and polypeptides (see AAM50564-67). The nucleic acids have been expressed in recombinant host calls that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of

```
g
                                                                                                                                                               g
                           g
                                                                       g
                                                                                               ò
                                                                                                                                           ð
                                                                                                                                                                                       8
                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           099
                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                 120
                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                              240
                      þ
                                                                                                                                                      9
                                                                                                                                                                          9
         receptor activity. Recombinant protein is useful for identifying modulators of the mammalian histamine H4 receptor. Such modulators may be useful for diagnosting, treating or preventing asthma, allergy, inflammation, cardiovascular and elerbrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGGCTTCTCAGAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCCTGGTGTCCTTAAGGACTCACATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arccreererctraaeeacreacareacaecaerareacreecrreaaereeerree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCTGGCGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGCAGAGCTTCTCAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccregarrigaaggaarcagcregarcregreacreagaaagrecregaagaagagege
                                                                                                                                                                        ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                                                                                                                                              GACTICCTCGTGGGTTTGATTTCCATTCCTCTGTACAICCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                   AATTITGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTTTGTGCACCGCA
                                                                                                                                                                                                                                                                                                                                                 TCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCTCAAATGGTGGCTGTTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                rcritatagggcrcaacacacacarcargaagarrgrrgcrcaaarggrggcrgrrrgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCCTTCAGATTCTTGGAAGAACAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCATTACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acgaacacaaaggacreggcerggcerregraracagagregracarcercarraca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AIGCICITGGAAITCCIGCITCCIGICAICTCTGIGGCITAITICAAIGIACAGAITTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Argererregaarrecreerrecrerererererererrarrecaretrarrea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGAGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           recadecretecaaceracecreteacraciaeceraceraceraceraceracere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTCTTCCAGTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                       TTAATGTCTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTT
                                                                                                                                                                                                                                             GACTTCCTCGTGGGTTTGATTTCCATTCCTCTGTACATCCCTCACGTGTTGTTTAACTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGGATTCTTGGAAGAACAGC
                                                                                                                                                      1 ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTT
                                                                                                                                 Gaps
to elevate mammalian histamine H4
                                                                                                                                 ·
0
                                                                                                             Length 1176;
                                                                                     Sequence 1176 BP; 263 A; 281 C; 269 G; 363 T; 0 U; 0 Other;
                                                                                                                                 Indels
                                                                                                             DB 6;
                                                                                                                                0;
                                                                                                                      Pred. No. 0;
0; Mismatches
                                                                                                           Score 1176;
  diseases where it is beneficial
                                                                                                             100.08;
                                                                                                                       100.0%;
                                                                                                                       Best Local Similarity 100.
Matches 1176; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                    61
                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                              셤
                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                 ΩD
                                                                                                                                                                                                                                                                                          \delta
                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                      à
   555555555X&
                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                à
```

```
The present sequence is that of a cDNA clone encoding a rat histamine receptor of the H4 subtype. The CDNA was isolated from a rat spleen CDNA library. It shows 72.5% homology to the human H4 receptor coding region. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AA770980-83) and polypeptides (see AA770980-83) and recombinant host cells that produce active recombinant protein. The pharmacology of known histamine H4 receptor may be used in gene therapy for the treatment of histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the mammalian histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin
                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           encoding
it is
                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            þe
                                        961 TACTGTCTGTTCACAATTGTCCTTTCAACTTACCCCCAGAACGGAACGCCCCAAATCGGTG
                                                                                                                                                                                                                                                                                                                       CCTTTGTGTCACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAA
                                                                                                                           TACTGTCTTCACAATTGTCCTTTCAACTTACCCCAGAACGGAACGCCCCAAAATCGGTG
                                                                                                                                                                                                                                                       TGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCTTTCTTAAC
AGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGCTTTTGCCATTTGCTGGGCTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New mammalian histamine H4 receptor proteins and polynucleotides the proteins, useful in gene therapy for treating diseases where beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Histamine H4 receptor; rat; antiasthmatic; antiallergenic; antinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCGCTGTCACAGAACCAGTCAGTATCTTCATGA 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccascscrercacasaaccasrcasrarcrrerida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 4; Fig 5C; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rat histamine H4 receptor cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAI70982 standard; cDNA; 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002-114339/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P-PSDB; AAM50566.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200192485-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lovenberg T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-DEC-2001.
                                                                  901
                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAI70982;
                                                                                                                                     961
                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAI 70982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
```

ö

Gaps

.. 0

Indels

·.

Mismatches

;

30; Conservative

Matches

```
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence is that of mouse histamine H4 receptor gene specific primer P2, which was used with an adaptor primer (see AA170990) in a 3' ARCE amplification of mouse spleen cDNA. Full-length cDNA (see AA170991) encoding mouse H4 (see AAN50565) was subsequently obtained. The invention provides mammalian histamine H4 receptor nucleic acid molecules and polypeptides. The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant H4 receptor protein can be used to identify modulators of activity for use in the treatment of asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent
                                                                                                                                                                                                               289
                                                                                                                                                                           230 TGTTTAACTGGAATTTTGGAAGTGGAATCTGCATGTTTTGGCTCATTACTGACTATCTTT 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New mammalian histamine H4 receptor proteins and polynucleotides encodi
the proteins, useful in gene therapy for treating diseases where it is
beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                 230 IGITIPAACIGGAATITIGGAAGIGGAATCIGCAIGTITIGGCICAIDACIGACTAICITI
dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; PCR primer; RACB; ss.
                                                                                                                                    .
0
                                                                                                Length 1176;
                                                          Sequence 1176 BP; 260 A; 293 C; 270 G; 353 T; 0 U; 0 Other;
                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mouse histamine H4 receptor gene specific primer P2.
                                                                                              DB 6; Le 9.2e-23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 30 BP; 8 A; 9 C; 6 G; 7 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the neuroendocrine system, stress and spasticity
                                                                                            5.7%; Score 67; DB
100.0%; Pred. No. 9.2
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 10; Page 48; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ORIH ) ORIHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                        AAI70992 standard; DNA; 30 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                    67; Conservative
                                                                                                                                                                                                                                                     290 TGTGCAC 296
                                                                                                                                                                                                                                                                                         290 TGTGCAC 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lovenberg T, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-114339/15.
                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200192485-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                              AAI70992;
                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                  RESULT 3
                                                                                                                                                                                                                                                                                                                                                                  AAI70992
                                                                                                                                                                                                                                                                                                                                                                                            8 X G G
                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                           ö
                                                                                                                                                                                                             Dp
                                                                                                                                                                                                                                                     ò
```

Length 30;

2.6%; Score 30; DB 6; L 100.0%; Pred. No. 0.00026;

Query Match Best Local Similarity

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New mammalian histamine H4 receptor proteins and polynucleotides encoding the proteins, useful in gene therapy for treating diseases where it is beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is that of mouse histamine H4 receptor gene specific primer P1, which was used with an adaptor primer (see AAI70990) in a 5' ARCB amplification of mouse spleen cDNA. Full-length cDNA (see AAI70981) encoding mouse H4 (see AAMF0565) was subsequently obtained. The invention provides mammalian histamine H4 receptor nucleic acid molecules and polypeptides. The nucleic acids have been expressed in recombinant host
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            H4
where
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hyperglycemia, constipation, arrhythmia, disorders of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      receptor may be used in gene therapy for the treatment of diseases whe it is beneficial to elevate mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases whe it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant H4 receptor protein can be used to identify modulators of activity for use in the treatment of asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                    Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; PCR primer; RACE; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                Mouse histamine H4 receptor gene specific primer Pl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 29 BP; 9 A; 10 C; 5 G; 5 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diabetes mellitus, hyperglycemia, constipation, the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 29; DB 6; L
Pred. No. 0.00081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match 2.5%; Score 29; DD Local Similarity 100.0%; Pred. No. 0.0
741 IGCAICTCGTCACTCAGAAAGICCTCGAAG 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  493 GACTGTGAGCCTGGCTTTGTTACAGAGTG 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29 GACTGTGAGCCTGGCTTTGTTACAGAGTG 1
                         1 TGCATCTCGTCACTCAGAAAGTCCTCGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 10; Page 48; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAI70983 standard; cDNA; 1170 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                   뮴.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-MAY-2000; 2000US-0208260P.
                                                                                                                                   AAI70991 standard; DNA; 29
                                                                                                                                                                                                           18-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2002-114339/15.
                                                                                                                                                                                                                                                                                                                                                                                                      WO200192485-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lovenberg T,
                                                                                                                                                                                                                                                                                                                                                                Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                          06-DEC-2001.
                                                                                                                                                                       AAI70991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAI70983
ID AAI7
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
                                                                                                               AAI70991,
                                                                                             RESULT
                                                                                                                                                     ò
                                   qq
```

us-10-626-445-5.olig.rng

```
diagnosis; gene therapy; PCR primer;
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence is that of a cDNA clone encoding guinea pig
histamine receptor of the H4 subtype. The cDNA was isolated from a bone
marrow cDNA library. It shows 75.6% homology to the human H4 receptor
coding region. The invention provides mammalian (human, mouse, rat and
coding region. The invention provides mammalian (human, mouse, rat and
coding region. The invention provides mammalian (human, mouse, rat and
coding region. The pivention provides manucle: a caid molecules (see AAI70980-
coding region. The pharmacology of known histamine liquads is demonstrated.
Mammalian histamine H4 receptor may be used in gene therapy for the
reatment of diseases where it is beneficial to elevate mammalian
chistamine H4 receptor activity. Recombinant protein is useful for
identifying wodulators of the mammalian histamine H4 receptor. Such
codulators may be useful for diagnosing, treating or preventing asthma,
allergy, inflammation, cardiovascular and cerebrovascular disorders, non-
insulin dependent diabetes mellitus, hyperglycemia, constipation,
arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New mammalian histamine H4 receptor proteins and polynucleotides encodi
the proteins, useful in gene therapy for treating diseases where it is
beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                     Histamine H4 receptor; guinea pig; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 6; Length 1170; 0.026;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1170 BP; 301 A; 286 C; 221 G; 362 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mouse histamine H4 receptor cDNA forward PCR primer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ch 2.2%; Score 26; DB 1 Similarity 100.0%; Pred. No. 0.0 26; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265 TITIGGCTCATIACIGACIAICTITI 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      262 TTTTGGCTCATTACTGACTATCTTT 287
                                                                    Guinea pig histamine H4 receptor cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 4; Fig 6B; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                      (ORTH ) ORTHO-MCNEIL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAI70993 standard; DNA; 39 BP
                                                                                                                                                                                                                                                                                  22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                    31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                        Lovenberg T, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2002-114339/15.
P-PSDB; AAMS0567.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                            Cavia porcellus
                                                                                                                                                                                                             WO200192485-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-MAR-2002
                                  18-MAR-2002
                                                                                                                                                                                                                                               06-DEC-2001
AAI 70983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
```

à d

```
New mammalian histamine H4 receptor proteins and polynucleotides encoding the proteins, useful in gene therapy for treating diseases where it is beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence is that of the forward primer used, with the reverse primer given in AAI7094, in the PCR amplification of mouse spleen cDNA. The coding region (see AAI70981) of mouse histamine H4 receptor cDNA was obtained. The PCR product was cloned into mammalian expression vector polNeo. The invention provides mammalian histamine H4 receptor nucleic acid molecules (see AAI70980-83) and polypeptides (see AAM50564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant H4 receptor protein can be used to identify modulators of activity for use in the treatment of asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Farnesyl transferase inhibitor modulated leukemia associated gene #700.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ss; cytostatic; farnesyl transferase inhibitor; gene expression; quinolinone; leukemia; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 23; DB 6; Length 39;
Pred. No. 0.8;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 39 BP; 11 A; 10 C; 10 G; 8 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AIGTCGGAGICTAACAGIACTGG 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 10; Page 49; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.v.,
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                        (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              system, stress and spasticity
                                                                                                                                                                                                     22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                     31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-OCT-2002; 2002WO-US034784.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-OCT-2001; 2001US-0338997P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADE85481 standard; DNA; 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-114339/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2003038129-A2.
                                                                   WO200192485-A1
Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                           Lovenberg T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens,
                                                                                                                                      06-DEC-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-MAY-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADE85481;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADE85481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
```

٥,

Pritchard

Fabre-Suver C,

Burmer G,

Miller M,

```
Brown JP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAD55123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                            methyl-2-(1H)quinolinone, monitoring the therapy of a patient, treating a patient with leukemia with FTI if the analysis indicates that the patient
                                                                                                                                                                                                                                                                                                       corresponds to a gene whose expression may be
                                                                                                                                                                                                The invention relates to a method of determining whether a patient will respond to treatment with a farnesyl transferase inhibitor (FTI), by analyzing the expression of gene that is differentially modulated in the presence of an FTI. The method is useful for determining whether a patient will respond to treatment with a FTI such as (B)-6-[amino(4-chlorophenyl)(1-methyl-1H-imidazol-5-yl)methyl]-4-(3-chlorophenyl)-1-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; G protein-coupled receptor; GPCR; ds; GAL4; galanin receptor; Albabamer's disease; amyotrophic lateral sclerosis; sathma; atherosclerosis; basal cell carcinoma; breast carcinoma; chronic obstructive pulmonary disease; Crohn's disease; chondrosarcoma; chronic obstructive pulmonary disease; Crohn's disease; monomic obstructive pulmonary disease; crohn's disease; multiple sclerosis; osteoarthritis; osteoporosis; parkinson's disease; psoriasis; rheumatoid arthritis; schizophrenia; ulcerative colitis;
                                                                                                                           farnesyl
                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                         Determining whether a patient will respond to treatment with a farr transferase inhibitor, by analyzing the expression of gene that is differentially modulated in the presence of the inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tuberculosis, cognition disorder; memory disorder; anorexia; hormonal release disorder; cardiovascular activity disorder; pain perception disorder; obesity; diabetes; obesity; diabetes;
                                                                                                                                                                                                                                                                                                                                                                                              ·.
                                                                                                                                                                                                                                                                                                                                                                   1.9%; Score 22; DB 9; Length 223; 100.0%; Pred. No. 2.5;
                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human DNA for potential G protein-coupled receptor #107.
                                                                                                                                                                                                                                                                                                                                            Sequence 223 BP; 57 A; 49 C; 43 G; 73 T; 0 U; 1 Other;
                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                        Disclosure; SEQ ID NO 700; 346pp; English
                                                (ORTH ) ORTHO CLINICAL DIAGNOSTICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hyperlipidaemia; stroke; gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                     197 TCTGTTCACAATTGTCCTTTCA 218
                                                                                                                                                                                                                                                                                                                                                                                                                      966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                   modulated in the presence of FTI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (LIFE-) LIFESPAN BIOSCIENCES INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP
           30-OCT-2001; 2001US-0340938P. 30-OCT-2001; 2001US-0341012P.
                                                                                                                                                                                                                                                                                                                                                                               100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-MAY-2001; 2001WO-US015332.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-MAY-2000; 2000US-0203217P.
18-MAY-2000; 2000US-0205945P.
30-OCT-2001; 2001US-0340081P.
                                                                                                                                                                                                                                                                                                     respond. This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAS98150 standard; DNA; 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 100.
                                                                                                 WPI; 2003-513497/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200185791-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-NOV-2001
                                                                         Raponi M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAS98150;
                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 8
AAS98150/c
                                                                                                                                                                                                                                                                                                                                                                                             Matches
ð
```

```
The invention relates to an isolated polypeptide encoded by a nucleic acid molecule that is at least 80% identical to the G protein-coupled (GGPCR) polypuclochided in the specification. Also included are probes based on the GPCR sequences (including antiennse probes), a host cell comprising an expression vector comprising the GPCR sequence, antibodies raised against the polypeptides are useful for cepressors, against the polypeptides are useful for identifying modulators compounds which function as modulators, activators, crepressors, against the polypeptides and mucleic acid probes as including the GAL4 polypeptide. The antibodies and nucleic acid probes as confined above can be used to detect the presence of the polypeptides of and nucleic acids and are used to disgnose a variety of disease.

CC described above can be used to detect the presence of the polypeptides and nucleic acids and are used to disgnose a variety of disease.

CC disorders in which GPCRs are involved e.g., Alzheimer's disease or disorders in which GPCRs are involved e.g., Alzheimer's disease.

CC arctinoma, breast carcinoma, cardiomyopathy, chondrosarcoma, chronic obstructive pulmonary disease, Crohn's disease, depression, epilepsy, macular degeneration, lymphoma, melanoma, multiple sclerosis, rheumatoid costeoarthritis, schizophrenia, ulcerative colitis, tuberculosis and many other diseases listed in the specification. The probes and antibodies are also carthritis, schizophrenia, ulcerative colitis, tuberculosis and many other diseases or increase the expression of galanin receptor (GAL4) can called the treat obseity, diabetes, hyperlipidaemia and stroke. The decrease or increase the expression of galanin receptor (GAL4) can be used to treat obseity, diabetes, hyperlipidaemia and stroke. The their by an order is a novel GPCR polynucleotide of the their by an order of the box when the content of the present sequence is a novel GPCR polynucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·
0
                                                                                       Novel G protein-coupled receptor polypeptides including galanin receptor polypeptides useful for identifying modulators that are useful for treating Alzheimer's disease, psoriasis, melanoma, multiple sclerosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; H4; histamine receptor; inflammatory bowel disease; psoriasis; atopic dermatitis; stroke; myocardial infarction; migraine; allergy; chronic obstructive pulmonary disease; COPD; cerebroprotective; therapy; rheumatoid arthritis; multiple sclerosis; inflammation; neuroprotective; asthma; receptor; variant; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.9%; Score 22; DB 6; Length 540; 100.0%; Pred. No. 2.5; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 540 BP; 173 A; 107 C; 119 G; 138 T; 0 U; 3 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product= "Human H4b protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human H4 receptor splice variant (H4b) DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           173 rerefrekcharrererrren 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                  Claim 2; Page 106; 144pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   966 TCTGTTCACAATTGTCCTTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAD55123 standard; DNA; 1103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22; Conservative
WPI; 2002-066595/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAD55123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
```

31-AUG-2001; 2001US-0316762P. 13-NOV-2001; 2001US-0332697P.

(MERI) MERCK & CO INC

Yates SL;

Gallagher MJ,

2003-290186/28. WPI; 2003-290186, P-PSDB; AAE36414

30-AUG-2002; 2002WO-US027891

WO2003020907-A2

```
Novel splice variants of human H4 histamine receptor, H4b and H4c, useful for identifying agonists or antagonists of the receptor which are useful for treating multiple sclerosis, asthma, allergy, psoriasis and stroke.
                                                                                                                                                                                                                                                                                                                   The invention relates to splice variants of human H4 histamine receptor, H4b and H4c. The invention is useful for identifying an agonist, antagonist or inverse agonist of a mammalian histamine receptor. The agonist, antagonist or inverse agonist of H4b and H4c is useful for treating inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infarction, migraine, chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease, or psoriasis. The present sequence is human H4c DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; H4; histamine receptor; inflammatory bowel disease; psoriasis; atopic dermatitis, stroke; myocardial infarction; migraine; allergy; chronic obstructive pulmonary disease; COPD; cerebroprotective; therapy; rheumatoid arthritis; multiple sclerosis; inflammation; neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.9%; Score 22; DB 8; Length 1166;
100.0%; Pred. No. 2.5;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1166 BP; 294 A; 246 C; 218 G; 408 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product= "Human H4 protein"
/note= "CDS does not include stop codon"
                                                                                                                                                                                                                                                                                  Claim 17; Page 48-49; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             915 rcrerrcacharrercerrrca 936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human H4 receptor wild-type DNA #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     966 TCTGTTCACAATTGTCCTTTCA
13-NOV-2001; 2001US-0332697P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAD55126 standard; DNA; 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-AUG-2002; 2002WO-US027891.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31-AUG-2001; 2001US-0316762P.
13-NOV-2001; 2001US-0332697P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gallagher MJ, Yates SL;
                                                                                     Yates SL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 asthma; receptor; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag=
                                          (MERI ) MERCK & CO INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MERI ) MERCK & CO INC
                                                                                                                                2003-290186/28.
                                                                                                                                                      P-PSDB; AAE36415.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2003020907-A2
                                                                                     Gallagher MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD55126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAD55126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                   Novel splice variants of human H4 histamine receptor, H4b and H4c, useful for identifying agonists or antagonists of the receptor which are useful for treating multiple sclerosis, asthma, allergy, psoriasis and stroke.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; H4; histamine receptor; inflammatory bowel disease; psoriasis; atopic dermatitis; stroke; myocardial infarction; migraine; allergy; chronic obstructive pulmonary disease; COPD; cerebroprotective; therapy; rheumatoid arthritis; multiple solerosis; inflammation; neuroprotective; asthma; receptor; variant; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to splice variants of human H4 histamine receptor, H4b and H4c. The invention is useful for identifying an agonist, antagonist or inverse agonist of a mammalian histamine receptor. The agonist, attagonist or inverse agonist of H4b and H4c is useful for treating inflammation, asthma, allergy, atopic dermatitis, stroke, mycoardial infarction, migraine, chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease, or psoriasis. The present sequence is human H4b DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1103 BP; 275 A; 226 C; 217 G; 385 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 8; Length 1103; 2.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product= "Human H4c protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.9%; Score 22; DB 100.0%; Pred. No. 2.5 ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human H4 receptor splice variant (H4c) DNA.
```

Query Match 1.9 Best Local Similarity 100. Matches 22; Conservative

AAD55124 standard; DNA; 1166 BP

RESULT 10 AAD55124

qq ð

(first entry)

07-AUG-2003

AAD55124;

Claim 5; Page 44-46; 31pp; English

Location/Qualifiers 55. .1128

Homo sapiens

/*tag=

WO2003020907-A2

13-MAR-2003

31-AUG-2001; 2001US-0316762P.

30-AUG-2002; 2002WO-US027891

0

```
98US-0109213P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-NOV-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ಥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .1173
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                     22; Conservative
                                                                                                         (AREN-) ARENA PHARM INC.
                                                                                                                                                       WPI; 2000-317986/27.
                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                P-PSDB; AAB02831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200031258-A2
29-SEP-1999;
29-SEP-1999;
01-0CT-1999;
01-0CT-1999;
01-0CT-1999;
01-0CT-1999;
12-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-NOV-1998;
                                                                                     12-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-JUN-2000
                                                                                                                          Behan DP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAD01124;
                                                                                                                                      Gore M,
                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAD01124
  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                ó
                           Novel splice variants of human H4 histamine receptor, H4b and H4c, useful for identifying agonists or antagonists of the receptor which are useful for treating multiple sclerosis, asthma, allergy, psoriasis and stroke.
                                                                                                                                                                                                                                                                                                                                                                            Human; G protein coupled receptor; GPCR; transmembrane receptor; identification; agonist; screening; therapeutic; pharmaceutical; mutant;
                                                                                    The invention relates to splice variants of human H4 histamine receptor,
                                                                                          HAD and HAC. The invention is useful for identifying an agonist, antagonist or inverse agonist of a mammalian histamine receptor. The agonist, antagonist or inverse agonist of H4b and H4c is useful for treating inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infarction, migraine, chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease, or psoriasis. The present sequence is human H4 receptor DNA
                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                           Human G protein coupled receptor hRUP7 encoding cDNA SEQ ID NO:13
                                                                                                                                                                                                                .;
0
                                                                                                                                                                                          Score 22; DB 8; Length 1170; Pred. No. 2.5;
                                                                                                                                                                       Sequence 1170 BP; 292 A; 245 C; 231 G; 402 T; 0 U; 0 Other;
                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                   100.0%; Pred. No. 2.5 tive 0; Mismatches
                                                                 Disclosure; Page 56-58; 31pp; English.
                                                                                                                                                                                                                                 966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                   960 rcherrcacaarrercerrrca 981
                                                                                                                                                                                                                                                                                                  AAA46023 standard; cDNA; 1173 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-0108029P.
98US-0109213P.
98US-0110060P.
99US-0120416P.
99US-0121852P.
99US-0123944P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9903-0123946D.
9903-0123948P.
9903-0123949P.
9903-0133951P.
9903-0136437P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0141448P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0136439P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0137131P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0151114P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99WO-US024065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0156555P
                                                                                                                                                                                           1.9%;
                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                       Query Match 1.9
Best Local Similarity 100.
Matches 22, Conservative
 2003-290186/28
         P-PSDB; AAE36417
                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200022131-A2
                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-AUG-1999;
03-SEP-1999;
29-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                        22-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-NOV-1998;
20-NOV-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-MAY-1999
                                                                                                                                                                                                                                                                                                                     AAA46023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-MAR-1
12-MAR-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-FEB-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     L2-MAR-
                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                               RESULT 12
                                                                                                                                                                                                                                                                                          AAA46023
                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                  pp
```

```
The present invention describes transmembrane receptors, preferably human G protein coupled receptors (GPCR), for which the endogenous ligand is unknown (orphan GPCR receptors). More specifically the present invention relates to non-endogenous, constitutively activated versions of a human GPCR. These non-endogenous human GPCRs can be useful for the direct identification of candidate compounds as receptors agonists, inverse agonists or partial agonists for use as pharmaceutical agents. AAA46017 to AAA46126 and AAB02825 to AAB02859 represent sequences used in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            screening receptor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; orphan G protein-coupled receptor; GPCR; hRUP7; drug screening;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Human orphan G protein-coupled receptor"
                                                                                                                                                                                                                                                                                                                                                                        Dang HT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 22; DB 3; Length 1173;
Pred. No. 2.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Non-endogenous, human G protein-coupled receptors for scr
inverse or partial agonists useful as therapeutic agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                        Chen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human orphan G protein-coupled receptor hRUP7 cDNA.
                                                                                                                                                                                                                                                                                                                                                                    Lehmann-Bruinsma K, Chalmers DT, C
Liaw CW, Lin I, Lowitz K, White C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transmembrane receptor; signal cascade; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 1; Page 88-89; 187pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960 rererreacaarrererrea 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product= "hRUP7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD01124 standard; cDNA; 1173 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              966 TCTGTTCACAATTGTCCTTTCA
                   990S-0155663P.
990S-0157280P.
990S-0157281P.
990S-0157292P.
990S-0157294P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
99US-0156634P
                                                                                                                                                                                                                                          99US-00417044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99WO-US023687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.9%;
```

```
AAH24007;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
AAH24007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                   Key
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                               The present sequence is a cDNA encoding hRUP7, an endogenous human orphan G protein-coupled receptor (GPCR). The full length hRUP7 cDNA was cloned by RT-PCR using human peripheral leucocyte cDNA as template. The orphan GPCR of the invention, like all GPCRs has seven transmembrane alpha helices with an extracellular N-terminus and an intracellular C-terminus. However, no endogenous ligands has yet been identified for the proteins of the invention. The orphan GPCRs may be used in the identification of their rendogenous ligands, and to screen potential GPCR agonists and antagonists for use as pharmaceutical agents. The proteins may also be used in the study of GPCR-mediated signalling cascades, and to elucidate their precise role in normal and diseased human conditions. Nucleic acid encoding human orphan GPCRs may be used for tissue localisation expression analysis to provide information about their function in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G-protein coupled receptor; GPCR; PFI-013; antiallergic; antiasthmatic; antiinflammatory; vasotropic; antidiabetic; anorectic; cytostatic; human;
                                                                                                                                                                                                                                                                                                                Novel human orphan G protein-coupled receptors and the encoding cDNAs for use in the identification of G protein-coupled receptor agonists.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 3; Length 1173; 2.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human GPCR-like polypeptide, PFI-013 encoding cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.9%; Scc...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960 referreacaarrererriea 981
                                                                                                                                                                                                                                                                                                                                               Claim 25; Page 59; 102pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAF83203 standard; cDNA; 1173 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        966 TCTGTTCACAATTGTCCTTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       healthy and pathological states
                            99US-0123949P.
99US-0136436P.
99US-0136437P.
99US-0136439P.
         99US-0121852P.
                                                                                99US-0137127P.
                                                                                                     99US-0141448P.
                                                                                                                         99US-0156633P.
99US-0156634P.
                                                                                                                                              99US-0156653P.
                                                                                                                                                        99US-0157280P.
                                                                                                                                                                    99US-0157281F.
                                                                                                                                                                                                 99US-0157294P.
                                                                                            99US-0137131P
                                                                                                                                                                           99US-0157282P
                                                                                                                                                                                     99US-0157293P
                                                                                                                                                                                                          99US-00416760
                                                                                                                                                                                                                     99US-00417044
                                                                                                                                                                                                                                                             Dang HT, Liaw CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22; Conservative
                                                                                                                                                                                                                                          (AREN-) ARENA PHARM INC
                                                                                                                                                                                                                                                                                   WPI; 2000-400068/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                             P-PSDB; AAY71297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-JUL-2001
                                                  28-MAY-1999
28-MAY-1999
                                                                                                                                                                   01-OCT-1999
                                                                                                                                                                                     01-OCT-1999
                                                                                                                                                                                                 01-OCT-1999
                                                                       28-MAY-1999
                                                                                 28-MAY-1999
                                                                                            28-MAY-1999
                                                                                                      JUN-1999
                                                                                                                 SEP-1999
                                                                                                                         29-SEP-1999
                                                                                                                                              29-SEP-1999
                                                                                                                                                        01-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAF83203;
                                                                                                                                                                                                                                                              Chen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Бb
```

```
This cDNA of NCIMB 41073 encodes a human G-protein coupled receptor (GPCR) like polypeptide, designated PFI-013. The PFI-013 protein can be expressed by standard recombinant methodology. Antibodies and modulators of PFI-013 are useful in the manufacture of a medicament for treating allergic disorder, including extrinsic asthma, immunological disorders, such as intrinsic asthma, vaculitic granulomatous disease, interstitial and other pulmonary disease, including chronic obstructive pulmonary disease (COPD), infectious, inflammatory disease, such as inflammatory bowel diseases (COPD), infectious, inflammatory disease, such as inflammatory calso useful for treating obesity, diabetes, metabolic, neurological diseases, psychotherapeutics, urogenital disease, reproduction and sexual medicine, inflammation, cancer, tissue repair, dermatology, photoageing, skin pigmentation, osteoporosis, cardiovascular, gastrointestinal diseases, allergy and respiratory disease, sensory organ disorders, sleep disorders and hair loss. The PPI-013 protein and nucleic acid are useful the diagnosis and treatment of the above conditions and also for similal treatment of diseases associated with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New G-protein coupled receptor-like polypeptide, polynucleotide for screening drug candidates for treating diseases associated with signal transduction e.g. allergic, inflammatory, pulmonary, neoplastic diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         signal transduction. The antibodies are also useful for enrichment of eosinophils from mammalian, especially human blood and for detecting the
osteopathic, neuroprotective, nootropic; dermatological; gynecological; signal transduction; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 22; DB 4; Length 1173; Pred. No. 2.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGTTCACAATTGTCCTTTCA 981
                                                                                                                                                                                Location/Qualifiers
1. .1173
                                                                                                                                                                                                                                                                                     /product= "PFI-013"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Pre-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAH24007 standard; cDNA; 1173 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 43; 66pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein in biological samples
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-OCT-2000; 2000EP-00309364.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-OCT-1999; 99GB-00025641.
20-APR-2000; 2000GB-00009973.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-AUG-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22; Conservative
                                                                                                                                                                                                                                                               *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peter B, O'reilly MA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-309854/33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (PFIZ ) PFIZER LTD. (PFIZ ) PFIZER INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; AAB62445
                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                    EP1096009-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAY-2001.
```

Human G protein-coupled receptor AXOR35 cDNA.

AXOR35; human; G protein-coupled receptor; 7TM receptor; blistamine H3 receptor homologue; infection; viral; bacterial; fungal; protozoan; HIV-1; HIV-2; pain; cancer; diabetes; obesity; anorexia; bulimia; osteoporosis; asthma; allergy; urinary retention; acute heart failure; hypotension; hypertension; angina pectoris; myocardial infarction; stroke; ulcer; migraine; vomitting; psychotic disorder; neurological disorder; anxiety; schizophrenia; manic depression; bipolar disorder; depression; delirium; dementia; severe mental retardation; dyskinesia; Parkinson's disease; Huntington's disease; Gilles de la Tourette's syndrome; lymphocyte; macrophage; eosinophil; neutrophil; function modulation; autoimmune disorder; pulmonary disorder; gene therapy; vaccine; drug screening; signal transduction; transgenic animal; drug discovery;

Homo sapiens

'note= "G protein-coupled receptor" "Human AXOR35" Location/Qualifiers .. .1173 **tag= a product=

WO200133221-A1

10-MAY-2001

26-OCT-2000; 2000WO-US029461.

02-NOV-1999; 99US-00431898. 02-NOV-1999;

(SMIK) SMITHKLINE BEECHAM CORP.

Fitzgerald LR, Graybill TL, Aubart KM, Bergsma DJ, Fi Michalovich D, Morrow DM,

Li X;

WPI; 2001-316464/33. P-PSDB; AAB73622.

treating cancer, autoimmune, pulmonary, cardiovascular and neurological disorders and for identifying modulators useful for treating asthma. Novel G-protein coupled receptor polypeptide and polynuclectide for

Claim 2; Page 49-50; 54pp; English.

The invention relates to the human G protein-coupled receptor AXOR35 (AAB73621), to cDNA encoding AXOR35 (AAH24006), and to AXOR35 fragments and variants. Like all G protein-coupled receptors, AXOR35 has 7 putative transmembrane domains and is involved in signal transduction. AXOR35 has homology and structural similarity with G protein-coupled receptors such as the human histamine H3 receptor. The invention also relates to expression vectors and host cells comprising AXOR35 DNA, to recombinant expression of AXOR35, and to an AXOR35-specific antibody. AXOR35 proteins and nucleotides may be used to treat a wide variety of disorders including bacterial, fungal, protozoal and viral infections, particularly H1V-1 or H1V-2 infections; pain; cancers; benign prostatic hypertrophy; diabetes; obesity; anorexia; bulimia; osteoporosis; asthma; allergies; urinary retention; cute heart failure; hypotenalon; hypertension; angina homoroxis; manners mirasine, required magina pectoris; myocardial infanction; stroke; ulcers; migraine; vomiting; pectoris; myocardial infanction; stroke; ulcers; migraine; vomiting; psychotic and neurological disorders such as anxiety, schizophrenia, man depression, depression, delirium, demential, and severe mental retardation, and dyskinesias, such as Parkinson's disease, Huntington's disease or Gilles de la Tourette's syndrome, AXOR35 proteins and nucleotides are useful as vaccines, and AXOR35 proteins and antibodies may be used in screening compounds for their ability to modulate AXOR35 activity or expression. Such AXOR35 modulators are particularly useful for treating asthma, and inhibiting or promoting the function of lymphocytes, macrophages, eosinophils or neutrophils in asthmatic lung. AXOR35 proteins, nucleotides and antibodies are also

disease via the detection of abnormal levels of protein or mRNA, or via the detection of mutations in the corresponding gene. AXOR35 proteins are also useful for inducing an immunological response in a mammal against the above diseases, and for antibody production. AXOR35 nucleotides also useful as diagnostic reagents, in chromosome localisation and expression studies, and for producing transgenic animals useful in drug discovery. AXOR35-specific antibodies are useful for purifying the AXOR35 protein or fragments thereof, and are also useful for treating conditions sequence represents cDNA encoding human AXOR35 protein. The present diagnosing or determining susceptibility of an individual to a $\begin{array}{c} \mathbb{S} \times \mathbb{$

Sequence 1173 BP; 294 A; 245 C; 231 G; 403 T; 0 U; 0 Other;

Gaps · 0 Score 22; DB 5; Length 1173; Pred. No. 2.5; 0; Indels 1.9%; Scc. 100.0%; Pred. No. ... Query Match
Best Local Similarity 100.00

ö

966 TCTGTTCACAATTGTCCTTTCA 987 960 rcigircacaariciccirrica 981 ò g

Search completed: October 1, 2004, 16:17:12 Job time : 862 secs This Page Blank (uspto)

```
GENERAL INFORMATION:
APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Laz, Thomas M.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Worse, Kelley L.
APPLICANT: Unland, Shelby P.
APPLICANT: Wang, Suke
TITLE OF INVENTION: Histamine receptor
FILE REFERENCE: CNO1069
CURRENT APPLICATION NUMBER: US/09/812,216
CURRENT FILING DATE: 2001-03-19
PRIOR APPLICATION NUMBER: 09/414,010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 1
LENGTH: 1173
                                                                                                                                                                                                                                                                                       US-09-414-010-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 2
US-09-812-216-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-414-010-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                   υυ
                                                                           υυ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5, Appli
Sequence 11, Appl
Sequence 1435, Ap
Sequence 1014, Ap
Sequence 1014, Appl
Sequence 16, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2461, Ap
Sequence 2349, Ap
Sequence 405, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7975, Ap
1, Appli
1, Appli
1003, Ap
78, Appl
131, App
                                                                  October 1, 2004, 15:51:39 ; Search time 110 Seconds (without alignments) 5932.930 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                              1 atgtcggagtctaacagtac.....accagtcagtatcttcttga 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence Sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                            Issued_Patents_NA:*
1: /cgn2_6/ptodata/2/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/2/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/2/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/2/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/2/ina/PCTUS_COMB.seq:*
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-016-434-11435
US-08-466-103A-3
US-09-436-01014
US-09-635-872A-16
US-09-636-060-16
US-09-636-060-16
US-09-128-155-16
US-09-128-155-16
US-09-621-976-7975
US-08-341-568-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-911-020-1
US-09-620-312D-1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-621-976-2461
US-09-489-039A-2349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S-09-148-545-78
S-09-148-545-131
S-09-128-155-16
S-09-128-155-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-956-171E-516
US-09-833-381-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-540-236-405
US-09-254-465A-5
                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-466-103A-5
US-08-466-103A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JS-09-198-603C-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-414-010-1
                                                                                                                                                                                                           682709 segs, 277475446 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                      Post-processing: Listing first 45 summaries
                                             OM nucleic - nucleic search, using sw model
                                                                                                                                                                                   Gapop_60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                  Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                   US-10-626-445-5
1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    536
536
2278
2278
2278
152331
176373
                                                                                                                                                                       OLIGO NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                      Scoring table:
                                                                                                                                  Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Word size :
                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                Sequence:
                                                                                                                                                                                                           Searched:
                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    М
М
```

υυ

0 0 0 0 0 0

```
ó
                                                                                                     1052, Ap
1103, Ap
2, Appli
2, Appli
2, Appli
1, Appli
1, Appli
1, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                             Sequence 2
Sequence 2
Sequence 1
Sequence 1
                                                           Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                Sequence
Sequence
                    Sequence
                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
US-09-369-247-14
US-09-554-080A-1
US-09-484-970B-83
US-09-489-039A-7167
US-09-489-039A-7167
US-09-254-465A-7
US-09-023-455A-11
US-09-023-455-1052
US-09-016-434-1103
US-09-017-44A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
1.9%; Score 22; DB 3;
Best Local Similarity 100.0%; Pred. No. 0.19;
Matches 22; Conservative 0; Mismatches
                                                                                                                                                                                     US-08-261-822A-1
PCT-US95-07744A-1
US-08-819-288-1
                                                                                                                                                                                                                                US-09-400-348-1
US-07-721-775A-1
                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Behan, Jiang Xu
APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Haz, Thomas M.
APPLICANT: Morse, Federick J. Jr.
APPLICANT: Morse, Kelley L.
APPLICANT: Waland, Shelby P.
APPLICANT: Wang, Suke
TILLE OF INVENTION: Histamine receptor
FILE REFERENCE: CN01069
CURRENT APPLICATION NUMBER: US/09/414,010
CURRENT APPLICATION NUMBER: US/09/414,010
CURRENT FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN VET. 2.1
                                                                                                                                                                                                                                                                                          ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960 TCTGTTCACAATTGTCCTTTCA 981
                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/09414010; Patent No. 6204017; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application US/09812216
Patent No. 6613533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         966 TCTGTTCACAATTGTCCTTTCA
                                                        2176
22181
22181
22565
2866
4746
4747
4747
6042
6042
6172
6172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
```

```
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 5
US-09-016-434-1435
Sequence 1435, Application US/09016434
; Patent No. 6500938
; GENERAL INFORMATION:
                                                                                                                                                           Sequence 11, Application US/08466103A Patent No. 5856124
                   939 TTTTGCCATTTGCTGGGCTCC 959
                                                        552 rrrrdccarrrdcrddcrcc 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               940 TTTGCCATTTGCTGGGCTCC 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    771 Trreccarracticactic 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Coding Sequence LOCATION: 33...1082
CTHER INFORMATION:
US-08-466-103A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Janice Au-Young
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                 Boston
                                                                                                                                              US-08-466-103A-11
                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: M. COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                        g
                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ·
0
                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Gaps
                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                     1.9%; Score 22; DB 4; Length 1173;
100.0%; Pred. No. 0.19;
cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
1.8%; Score 21; DB 2; Length 867;
Best Local Similarity 100.0%; Pred. No. 0.63;
Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:

APPLICANT: Reppert, Steven M.
APPLICANT: BDisawa, Takashi
TITLE OF INVENTION: HIGH-AFFINITY MELATONIN
TITLE OF INVENTION: RECEPTORS AND USES THEREOF
NUMBER OF SEQUENCES: 29
CORRESPONDENCE ADDRESS:
ADDRESSEB: Fish & Richardson P.C.
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible
OPERATING SYSTEM: Windows95
SOFWARE: FastESQ for Windows Version 2.0
CURRENT APPLICATION DATE: US/08/466,103A
FILING DATE: 06-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           00786/250002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CILING DATE: 00-00.

CILASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/319,887

FILING DATE: 07-00-0-1994

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/261,857

FILING DATE: 17-010-1994

ATTORNEY/AGENT INFORMATION:
NAWE: Fraser, Janis K.
REGISTRATION NUMBER: 34,819

REGISTRATION NUMBER: 34,819

REGISTRATION NUMBER: 34,819

REGISTRATION NUMBER: 00786/2:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070

TELEPHONE: 617/542-5070

TELEPHONE: 617/542-8906

INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 867 base pairs

LENGTH: 867 base pairs

STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                   960 TCTGTTCACAATTGTCCTTTCA 981
                                                                                                                                                                                                                                                                             966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                    RESULT 3
US-08-466-103A-5
; Sequence 5, Application US/08466103A
; Patent No. 5856124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: DNA (genomic) FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Coding Sequence LOCATION: 1...864
CTHER INFORMATION:
US-08-466-103A-5
PRIOR FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1
                                                                                                                                                                                                                                   22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: US
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                         TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Boston
                                                                                     LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: BO
STATE: M
COUNTRY:
                                                                                                                                     ; ORGANISM: m
US-09-812-216-1
                                                                                                                                                                                            Query Match
Best Local S
Matches 22
                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                    d
```

```
ö
350 cd 15/99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 1.7%; Score 20; DB 2; Length 1085; Best Local Similarity 100.0%; Pred. No. 2.1; Matches 20; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: MA

COUNTRY: US

ZIP: 02110-2804

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
COMPUTER: TRACKING CONTRY

APPLICATION NUMBER: US/08/466,103A
FILING DATE: 06-JUN-1995
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/319,887
FILING DATE: 07-OCT-1994
FILING DATE: 07-OCT-1994
FILING DATE: 17-JUN-1995
FILING DATE: 17-JUN-1995
FILING DATE: 17-JUN-1994
FILING DATE: 17-JUN-1999
FILING DATE: 17-JUN-1994
FILING DATE: 17-JUN-
                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Reppert, Steven M.
APPLICANT: Ebiswa, Takashi
TITLE OF INVENTION: RECEPTORS AND USES THEREOF
```

m

```
US-09-635-872A-16/c; Sequence 16, Application US/09635872A; Patent No. 6534300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 940 TTTGCCATTTGCTGGGCTCC 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       835 rrrdccarrrdcrdccrcc 854
                                                                                                                                                                                                                                                                                        NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 0078
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
TELEFAX: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      151 AATTATTTTTTTTAATT 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            282 AATTATTTTTTTTTAATT 264
                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 617/542-8906
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1149 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Enterococcus faecalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: Coding Sequence
LOCATION: 49...1146
OTHER INFORMATION:
                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 100. Matches 20; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-134-000C-1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-466-103A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
LILLE OF INVENTION: COMPOSITION FOR THE DETECTION OF SIGNALING NUMBER OF SEQUENCES: 1490
CORRESPONDENCE ADDRESS:
ADDRESSEE: INCYTE PHARMACEUTICALS, INC.
STREET: 3174 PORTER DRIVE
CITY: PALO ALTO
STATE: CALIFORNIA
COUNTRY: USA
ZIP: 0.11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.7%; Score 20; DB 4; Length 1085; 100.0%; Pred. No. 2.1; o; Indels iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC Compatible
COMPUTER: DEM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Word Perfect 6.1 for Windows/MS-DOS 6.2
CURRENT APPLICATION DATA:
FILING DATE: HEREWITH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 3, Application US/08466103A
Fatent No. 5856124
GENERAL INFORMATION:
APPLICANT: Repert, Steven M.
TITLE OF INVENTION: HIGH-AFFINITY MELATONIN
TITLE OF INVENTION: RECEPTORS AND USES THEREOF
CORRESONER OF SEQUENCES: 29
CORRESONER FISH & RICHARDSS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FastSEQ for Windows Version 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                  FLIANS LATE: INCREMAIN.
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION:
ATORNEY/AGENT INFORMATION:
NAME: ZEller, March J.
REFERENCE/DOCKET NUMBER: 37,071
REFERENCE/DOCKET NUMBER: 9A-0002 US
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (650) 845-4166
INFORMATION FOR SEQ ID NO: 1435:
SEQUENCE CHARACTERISTICS:
LENGTH: 1085 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    940 TITGCCATITGCTGGGCTCC 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          771 Triccarriecressic 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM Compatible OPERATING SYSTEM: Windows95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
nes 20; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RY: US
02110-2804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; LIBRARY: GENBAR
; CLONE: 9602129
US-09-016-434-1435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 225 Fr
CITY: Boston
STATE: MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JS-08-466-103A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loc
Matches
```

```
US-09-134-000C-1014/c

US-09-134-000C-1014/c

Sequence 1014, Application US/09134000C

Sequence 1014, Application US/09134000C

Sequence 1014, Application US/09134000C

GENERAL INFORMATION:

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO

TITLE OF INVENTION: ENTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS

CURRENT APPLICATION NUMBER: US/09/134,000C

CURRENT FILING DATE: 1998-08-13

PRIOR FILING DATE: 1997-08-15

NUMBER OF SEQ ID NOS: 6812

SEQ ID NO 1014

LENGTH: 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.6%; Score 19; DB 4; Length 453; 100.0%; Pred. No. 6.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.7%; Score 20; DB 2;
100.0%; Pred. No. 2.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Preα. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ilarity 100.0%; Pred. No. 6.6
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                               00786/250002
APPLICATION NUMBER: US/08/466,103A
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/319,887
FILING DATE: 07-OCT-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/261,857
FILING DATE: 17-JUN-1994
ATTORNEY AGENT INFORMATION:
```

0;

·

Gaps

·,

```
Sequence 16, Application US/09986552

Patent No. 6670165

GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: METHODS FOR PRODUCING HIGHLY PHOSPHORYLATED LYSOSOMAL HYDROLASES
FILE REFERENCE: 215089US77DIV
TITLE OF INVENTION: METHODS FOR PRODUCING HIGHLY PHOSPHORYLATED LYSOSOMAL HYDROLASES
FILE REFERENCE: 215089US77DIV
CURRENT FAPLICATION NUMBER: 09/635,872
PRIOR FILING DATE: 2001-11-09
PRIOR APPLICATION NUMBER: 09/635,831
PRIOR FILING DATE: 1999-09-14
PRIOR FILING DATE: 1999-09-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 16, Application US/09128155
; Sequence 16, Application US/09128155
; Patent No. 6117654
; GENERAL INFORMATION:
APPLICAMY: Pan, Yan, Yan
TITLE OF INVENTION: AND USES THEREOF
FILE REPERENCE: 09404/052001
CURRENT APPLICATION NUMBER: US/09/128,155
; CURRENT FILING DATE: 1998-08-03
; CRRENT FILING DATE: 1998-08-03
; EARLIER APPLICATION NUMBER: US 60/091,650
; EARLIER PILING DATE: 1999-08-04
; EARLIER PILING DATE: 1999-08-04
; EARLIER FILING DATE: 1999-08-04
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 16.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.6%; Score 19; DB 3; Length 152331;
100.0%; Pred. No. 8.3;
tive 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 5229;
  Length 5229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                   Indels
       DB 4;
7.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 1.6%; Score 19; DB Best Local Similarity 100.0%; Pred. No. 7.3 Matches 19; Conservative 0; Mismatches
    Query Match 1.6%; Score 19; DB Best Local Similarity 100.0%; Pred. No. 7.3 Matches 19; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1022 GGTACAGCATTGCCTTCTG 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2576 GGTACAGCATTGCCTTCTG 2558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LOCATION: (1)...(152331)
; OTHER INFORMATION: n = A,T,C or G
US-09-128-155-16
                                                                                                    1022 GGTACAGCATTGCCTTCTG 1040
                                                                                                                                                   2576 deracacarrecerrere 2558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 911 CCAGGTCACTGGCCATCCT 929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin version 3.1
SEQ ID NO 16
LENGTH: 5229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
CORGANISM: Mus musculus
US-09-986-552-16
                                                                                                                                                                                                                           RESULT 11
US-09-986-552-16/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                            ð
APPLICANT: CANFIELD, WILLIAM
TITLE OF INVENTION: METHODS FOR PRODUCING HIGHLY PHOSPHORYLATED LYSOSOMAL HYDROLASES
FILE REFERENCE: 195613US0
CURRENT APPLICATION NUMBER: US/09/635,872A
CURRENT FILING DATE: 2000-08-10
PRIOR PILING DATE: 1999-09-14
NUMBER: OF SEQ ID NOS: 52
SOFTWARE: PALENTIN VERSION 3.0
SEQ ID NO 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: CANFIELD, WILLIAM M
APPLICANT: CANFIELD, WILLIAM M
APPLICANT: CANFIELD, WILLIAM M
TITLE OF INVENTION: GLCNAC PHOSPHOTRANSFERASE OF THE LYSOSOMAL TARGETING PATHWAY
FILE REFERENCE: 210119USOCCONT
CURRENT APPLICATION NUMBER: US/09/636,060C
CURRENT FILING DATE: 2000-08-10
PRIOR PILING DATE: 1999-09-14
NUMBER OF SEQ ID NOS: 52
SOFFWARE: Patentin version 3.1
SEQ ID NO 16
LENGTH: 5229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
US-09-636-077A-16/c

is Sequence 16, Application US/09636077A

is Patent No. 653770.

j Apticant No. 65370.

j GENERAL INFORMATION:

APPLICANT: CANFIELD, WILLIAM

i TITLE OF INVENTION: METHODS OF TREATING LYSOSOMAL STORAGE DISEASE

rither Reference: 195612080

current Application Number: US/09/636,077A

CURRENT FILICA DATE: 1200-08-10

PRIOR PILING DATE: 1999-09-14

j PRIOR FILING DATE: 1999-09-14

j WIMBER OF SEQ ID NOS: 52

software: Patentin version 3.0

i.ENGTH: 5229
                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                      ·.
                                                                                                                                                                                                                                                                                                                                                                       1.6%; Score 19; DB 4; Length 5229;
100.0%; Pred. No. 7.3;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 5229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 19;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
US-03-636-06C-16/c
Sequence 16, Application US/09636060C
; Patent No. 6642038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.6%; SCC...
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1022 GGTACAGCATTGCCTTCTG 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2576 geracackirdccircig 2558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1022 GGTACAGCATTGCCTTCTG 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2576 GGTACAGCATTGCCTTCTG 2558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 19; Conservative
                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Mus musculus
                                                                                                                                                                                                                                                                                 TYPE: DNA
CORGANISM: Mus musculus
US-09-635-872A-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-636-060C-16
                                                                                                                                                                                                                                                          LENGTH: 5229
```

g 8

Db à

ö

Gaps

ö

ö

Gaps

ö

g

```
APPLICANT: Sika-aho, Matti
APPLICANT: Sika-aho, Matti
APPLICANT: Sika-aho, Matti
APPLICANT: Sika-aho, Matti
APPLICANT: Vikari, Liisa
APPLICANT: Vikari, Liisa
APPLICANT: Saloheimo, Anu
APPLICANT: Marjatta, Ranua
APPLICANT: Marjatta, Ranua
TITLE OF INVENTION: Methods for isolating the genes, and methods for bleaching
TITLE OF INVENTION: lignocellulosic pulps
CORRESPONDENCES:
ADDRESSE: Birch, Stewart, Kolasch and Birch
                                                                                                                                                                                                                                                                                                                     ..
0
                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                           Query Match
1.5%; Score 18; DB 1; Length 536;
Best Local Similarity 100.0%; Pred. No. 22;
Matches 18; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/911,020
FILING DATE: 13-40G-1997
CLASSIFICATION DATA:
APPLICATION NUMBER: US/08/911,020
FILING DATE: 13-40G-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/341,568
FILING DATE: 22-NOV-1994
ATTORNEY/AGENT INFORMATION:
NAME: MUTPHY Uf, Gerald M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 365-262P
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Birch, Stewart, Kolasch and Birch STREET: PO Box 747 CITY: Falls Church STATE: UA COUNTRY: US ZIP: 22040-0747 COMPUTER READALE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-911-020-1
; Sequence 1, Application US/08911020
; Patent No. 5854047
                                                                                               ; TOPOLOGY: linear; MOLECTLE TYPE: CDNA; ORIGINAL SOURCE: ORGANISM: Trichoderma reesei; STRAIN: QM9414
                                                                                                                                                                                                                                                                                                                                                      600 CTGGAGCCTGTGGAAGCG 617
                                                                                                                                                                                                                                                                                                                                                                                                      128 Crecadecricrecadece 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: CDNA
ORIGINAL SOURCE:
ORGANISM: Trichoderma reesei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (703) 205-8000 TELEFAX: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (703) 205-8050
TELEX: 248345
INPORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 536 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                            LENGTH: 536 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; STRAIN: QM9414
US-08-911-020-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/08341568

Patent No. 5661021

GENERAL INFORMATION:

APPLICANT: Buchert, Johanna
APPLICANT: Sika-aho, Matti
APPLICANT: Vikari, Liisa
APPLICANT: Vikari, Liisa
APPLICANT: Penttila, Merja
APPLICANT: Saloheimo, Anu
APPLICANT: Mananase enzymes, genes coding for them,
TITLE OF INVENTION: methods for isolating the genes, and methods for bleaching lig
TITLE OF INVENTION: pulps
NUMBER OF SEQUENCES: 7
CORRESPONDENCES ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4; Length 424;
22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                            US-09-621-976-7975

Sequence 7975, Application US/09621976

Patent No. 6629063

GENERAL INFORMATION:

APPLICANT: Unbert, S.

APPLICANT: Glordano, J.Y.

TITLE OF INVENTION:

FILE REPERBUCE: GINCENTION:

FILE REPERBUCE: CONTENTION: ESTS and Encoded Human Proteins.

CURRENT FILING DATE: 2000-07-21

NUMBER OF SEQ ID NOS: 19335

SOFTWARE: Patent.pm

LEMORTH. 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READON 144.

COMPUTER READON 145.

COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/341,568
FILING DATE: 22-NOV 1994
CLASSIFICATION: 435
ATTON BY/AGBNT INPORMATION:
NAME: MUTPHY JT. GETAID M
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 365-262P
TELEPRAK: (703) 205-8000
TELEFAX: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: Birch, Stewart, Kolasch and Birch STREET: PO Box 747
CITY: Falls Church
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 1.5%; Score 18; DB Best Local Similarity 100.0%; Pred. No. 22; Matches 18; Conservative 0; Mismatches
135343 CCAGGTCACTGGCCATCCT 135325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 544 CTCTTGGAATTCCTGCTT 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40 CTCTTGGAATTCCTGCTT 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (703) 205-805
TELEX: 248345
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22040-0747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ns
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-621-976-7975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΑA
                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
US-08-341-568-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
```

qq ò

```
Query Match
Best Local Similarity 100.0%; Pred. No. 22;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps
```

ò

Db 128 CTGGAGCCTGTGGAAGCG 145

Search completed: October 1, 2004, 18:39:40 Job time : 113 secs

```
Sequence 697, App
Sequence 1, Appli
Sequence 1, Appli
Sequence 13, Appli
Sequence 13, Appl
Sequence 14, Appli
Sequence 26, Appli
Sequence 11, Appli
Sequence 11, Appli
                                                                                                            October 1, 2004, 17:38:54 ; Search time 660 Seconds (without alignments) 9033.046 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                       l atgtcggagtctaacagtac......accagtcagtatcttcttga 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1
Sequence 1
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'cgn2_6/ptodata/I/pubpna/US07_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US06_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US06_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US06_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US07_NEW_PUB.seq:*
'cgn2_6/ptodata/I/pubpna/US08_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US08_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US08_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US09_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US09_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US09_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US09_NEW_PUB.seq:*
'cgn2_6/ptodata/I/pubpna/US10A_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US10A_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US10A_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US10A_PUBCOMB.seq:*
'cgn2_6/ptodata/I/pubpna/US10B_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                           6681306
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-349-2534-1
US-09-875-076-13
US-09-876-252-13
US-10-052-193-1
US-10-290-078-26
US-10-394-807-13
US-10-393-807-13
US-10-393-807-13
US-10-393-807-13
US-10-37-820A-13
US-10-733-655-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-283-975A-697
                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                       3340653 seqs, 2534783454 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-812-216-1
US-09-910-411-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Published Applications_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Listing first 45 summaries
                                                                         OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                             OLIGO_NUC
Gapop_60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                          seq length: 0 seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 113
113
115
115
117
                                                                                                                                                                                                US-10-626-445-5
1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       223
11173
11173
11173
11173
11173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1173
1173
1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                  Perfect score:
                                                                                                                                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
                                                                                                                                                                                                                                                                                                                                                                           Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database :
                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
```

Sequence 13, Appl Sequence 25, Appl Sequence 1, Appli Sequence 1, Appli Sequence 1, Appli Sequence 274218, Sequence 274218, Sequence 274218, Sequence 2558, Appl Sequence 11858, Appl Sequence 11858, Appl Sequence 19, Appl Sequence 19, Appl Sequence 19, Appl Sequence 19, Appl Sequence 252125, Sequence 252125, Sequence 163, Appl Sequence 163, Appl Sequence 11842, Appl Sequence 11842, Appl Sequence 1185, Appl Sequence 1185, Appl Sequence 252125, Sequence 252125, Sequence 3152, Appl Sequence 11842, Appl Sequence 11842, Appl Sequence 252125, Appl Sequence 25	21, Appl 207090,
US-10-782-596-13 US-10-290-078-25 US-09-891-138A-5 US-09-852-165-1 US-10-696-673-1 US-10-027-632-274218 US-10-027-632-274218 US-10-027-632-274218 US-10-027-632-274218 US-10-027-632-274218 US-10-027-386-11858 US-10-029-386-11858 US-10-029-386-11858 US-10-029-386-11858 US-10-029-386-11858 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-263186 US-10-027-632-363186 US-10-027-632-363186 US-10-027-632-363186 US-10-027-632-363186 US-10-027-632-363186 US-10-027-632-363186 US-10-027-632-3935 US-10-027-632-3935 US-10-027-632-397548	09-893-737-21 -10-027-632-2070
10000000000000000000000000000000000000	13
11173 1265 1266 1300 3689 633 633 76410 220841 1053 11085 11085 11085 1252 2097 2097 2097 2097 355 355 487 487	531 566
100000000000000000000000000000000000000	19
00 000 000 0000 0000 0000 0000 0000 0000	44 44 C

ALIGNMENTS

```
Gaps
                                                                                                    JOHNSON TO SERVING TO STATE OF THE OF INCOMENTAL INCOMENTAL OF THE OF INVENTION: Methods For Assessing and Treating Leukemia FILE OF INVENTION: Methods For Assessing and Treating Leukemia FILE OF INVENTE: CDS 293 PCT CURRENT APPLICATION NUMBER: US/10/283,975A CURRENT FILING DATE: 2002-10-30

PRIOR APPLICATION NUMBER: 60/340,938

PRIOR APPLICATION NUMBER: 60/340,081

PRIOR APPLICATION NUMBER: 60/340,081

PRIOR FILING DATE: 2001-10-30

PRIOR FILING DATE: 2001-10-30

PRIOR FILING DATE: 2001-10-30

PRIOR FILING DATE: 2001-10-30

SPRIOR FILING DATE: 2001-10-30

SOFTWARE: PALCATION NUMBER: 60/341,012

PRIOR FILING DATE: 2001-10-30

SOFTWARE: PALCATION NUMBER: 60/341,012

PRIOR FILING DATE: 2001-10-30

SOFTWARE: PALCATION NUMBER: 60/341,012

PRIOR FILING DATE: 2001-10-30

SOFTWARE: PALCATION NUMBER: 60/341,012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.9%; Score 22; DB 17; Length 223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Pred. No. 0.8 iive 0; Mismatches
                           Sequence 697, Application US/10283975A Publication No. US20040110792A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(223)
OTHER INFORMATION: N=any base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best_Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: HUMAN
US-10-283-975A-697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-283-975A-697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ठ
```

. 0

197 TCTGTTCACAATTGTCCTTTCA 218

임

```
US-10-349-253A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-875-076-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.9%; Score 22; DB 9; Length 1173; 100.0%; Pred. No. 0.93; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/09910411
; Batent No. US20020137054A1
; Patent No. US20020137054A1
; GREERAL INFORMATION:
; APPLICANT: Briggma, Derk
; APPLICANT: Fitzgerald, Laura
; APPLICANT: Michalovich, David
; APPLICANT: Michalovich, David
; APPLICANT: Zhu, Yuan
; TITLE OF INVENTION: AXCR35, A G-Protein Coupled Receptor
; FILE REPERENCE: GP70655-21;
; CURRENT APPLICATION NUMBER: US/09/910,411
; FILE REPERENCE: 2000-10-20
; PRIOR FILING DATE: 2000-10-20
; PRIOR APPLICATION NUMBER: 09/693,761
; PRIOR APPLICATION NUMBER: 09/497,790
; PRIOR APPLICATION NUMBER: 09/491,898
; PRIOR FILING DATE: 2000-02-03
; PRIOR FILING DATE: 2000-02-03
; PRIOR PRILICATION NUMBER: 09/431,898
; PRIOR FILING DATE: 1999-11-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 1.9%; Score 22; DB 9; Best Local Similarity 100.0%; Pred. No. 0.93; Matches 22; Conservative 0; Mismatches
                                                                        APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Hedrick, Joseph A.
APPLICANT: Monsama, Frederick J. Jr.
APPLICANT: Morse, Kalley L.
APPLICANT: Morse, Kalley L.
APPLICANT: Unland, Shelby P.
APPLICANT: Unland, Shelby P.
TITLE OF INVENTION: Histamine receptor
FILE REFERENCE: CN01069
CURRENT APPLICATION WUMBER: US/09/812,216
CURRENT FILING DATE: 2001-03-19
PRIOR FILING DATE: 1999-10-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 2
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960 rciericacaarrercerrica 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960 rererreacharrerecriren 981
Sequence 1, Application US/09812216 Patent No. US20020098539A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 8 SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 1.9
Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapien
US-09-910-411-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-812-216-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEC ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
```

```
UG-10-149-253AA

UG-10-149-253AA

PUBLICATION OF RESERVE OF THE PROPERTY OF THE PROPETTY OF TH
```

ö

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 13; Length 1173; 0.93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sequence 1, Application US/10052193 | Sequence 1, Application US/10052193 | Publication No. US20020132755A1 | SEMERAL INFORMATION: APPLICANT: Pfizer, Inc. | TTLLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS | CURRENT APPLICATION NUMBER: US/10/052,193 | CURRENT FILING DATE: 2002-01-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
1.9%; Score 22; DB
Best Local Similarity 100.0%; Pred. No. 0.9
Matches 22; Conservative 0; Mismatches
PRIOR APPLICATION NUMBER: 60/123,945
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-09-13
PRIOR PLING DATE: 1999-09-13
PRIOR FILING DATE: 1999-09-13
PRIOR PLING DATE: 1999-09-27
PRIOR PLING DATE: 1999-05-28
PRIOR PLING DATE: 1999-05-29
PRIOR PLING DATE: 1999-09-29
PRIOR PLING DATE: 1999-00-10
PRIOR PLING DATE: 1999-00-10-10
PRIOR PLING DATE: 1999-00-10-10
PRIOR PLING DATE: 1999-00-10-10
PRIOR PLING DAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960 rerefreacharrererres 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-876-252-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 13
LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 13, Application US/09876252

### Sequence 13, Application US/09876252

### Publication No. US20030018182A1

### Septican No. US20030018182A1

### Septican No. US20030018182A1

### Septican US Chalmers, Derek T.

### APPLICANT: Chalmers, Derek T.

### APPLICANT: Lowitz, Kevin P.

### APPLICANT: NUMBER: US/09/876,252

### APPLICANT: NUMBER: 09/110,496

### PRIOR APPLICANT: NUMBER: 00/110,060

### PRIOR APPLICANT: NUMBER: 00/110,060

### PRIOR APPLICANT: NUMBER: 00/110,416

### PRIOR PLING DATE: 1999-02-16

### PRIOR FILING DATE: 1999-02-16

### PRIOR FILING DATE: 1999-02-16

### PRIOR FILING DATE: 1999-02-26

### PRIOR FILING DATE: 1999-02-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ch 1.9%; Score 22; DB 13; Length 1173; 1 Similarity 100.0%; Pred. No. 0.93; 22; Conservative 0; Mismatches 0; Indels
                              PRIOR APPLICATION NUMBER: 60/137,127
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR PELLING DATE: 1999-05-28
PRIOR APPLICATION NUMBER: 60/141,448
PRIOR PILING DATE: 1999-06-29
PRIOR PILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR PILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR PILING DATE: 1999-09-29
PRIOR PILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-10-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960 rererreacharrererrien 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 60/109,213
FILING DATE: 1998-11-20
APPLICATION NUMBER: 60/123,944
FILING DATE: 1999-03-12
        FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
CRGANISM: Homo sapiens
US-09-875-076-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-876-252-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
```

ò

q

8

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ô
                   PRIOR APPLICATION NUMBER: 60/123,949
PRIOR APPLICATION NUMBER: 60/136,436
PRIOR APPLICATION NUMBER: 60/136,436
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR PRIOR APPLICATION NUMBER: 60/136,437
PRIOR APPLICATION NUMBER: 60/136,439
PRIOR APPLICATION NUMBER: 60/136,567
PRIOR APPLICATION NUMBER: 60/136,567
PRIOR APPLICATION NUMBER: 60/136,567
PRIOR PLING DATE: 1999-05-28
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 74
SEQ ID NOS: 74
SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.9%; Score 22; DB 15; Length 1173;
100.0%; Pred. No. 0.93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
1.9%; Score 22; DB 15; Length 1173;
Best Local Similarity 100.0%; Pred. No. 0.93;
Matches 22; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFOGRATION:
APPLICANT: PFizer Inc.
APPLICANT: Peter, Beate
APPLICANT: Peter, Beate
APPLICANT: Peter, Beate
FILE REFERENCE: PC10373B
CURRENT APPLICATION NUMBER: US/10/354,769
CURRENT FILING DATE: 2003-01-30
PRIOR APPLICATION NUMBER: US 60/211,243
PRIOR FILING DATE: 2000-10-27
PRIOR FILING DATE: 2000-10-27
PRIOR FILING DATE: 1999-10-29
PRIOR FILING DATE: 1900-06-14
SECONDANCE: 2000-06-14
SECONDANCE: 2000-06-14
SECONDANCE: 2000-06-14
SECONDANCE: 2000-06-14
SECONDANCE: 2000-06-14
SECONDANCE: 2000-06-14
SECONDANCE: 2000-06-16
SECONDANCE: 2000-06-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960 rererreacaarrerecritea 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960 rerefrekcakrierectrick 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 13, Application US/10393807; Publication No. US20030175891A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.5°,
100.0%; Pic.
0; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/10354769; Publication No. US20030149242A1; GENERAL INFORMATION:
  FILING DATE: 1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , APPLICANT: Chen, Ruoping ; APPLICANT: Dang, Huong T.
                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
CORGANISM: Homo sapiens
US-10-272-983-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-393-807-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-354-769-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 26, Application US/10290078
Publication No. US20030124596A1
GENERAL INFORMATION:
APPLICANT: Carroll, Joseph A.
TITLE OF INVENTION: Hematological Disorders Using 232, 2059, 10630, 12848, 13875,
TITLE OF INVENTION: Hematological Disorders Using 232, 2059, 10630, 12848, 13875,
TITLE OF INVENTION: 14395, 14618, 17692 or 58874
TITLE OF INVENTION: 14395, 14618, 17692 or 58874
CURRENT APPLICATION NUMBER: US/10/290,078
CURRENT FILING DATE: 2002-11-07
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NOS: 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ·.
                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-LU-Z/Z-343-13

; Sequence 13, Application US/10272983
; Publication No. US20030148450A1
; GRNERAL INFORMATION:
    APPLICANT: Chen, Ruoping
    APPLICANT: Liaw, Chen W.
    APPLICANT: Liaw, Chen W.
    APPLICANT: Liaw, Lihman Orphan G Protein Coupled Receptors
    TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
    FILE REFERENCE: ARENOSO
    CURRENT FILING DATE: 2002-10-17
    PRIOR APPLICATION NUMBER: US/09/417,044
    PRIOR APPLICATION NUMBER: 60/109,213
    PRIOR FILING DATE: 1938-11-20
    PRIOR PILING DATE: 1938-11-20
    PRIOR APPLICATION NUMBER: 60/120,416
    PRIOR APPLICATION NUMBER: 60/121,851
    PRIOR APPLICATION NUMBER: 60/121,851
    PRIOR PILING DATE: 1939-02-16
    PRIOR APPLICATION NUMBER: 60/121,851
    PRIOR PILING DATE: 1939-02-26
                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                      1.9%; Score 22; DB 14; Length 1173;
100.0%; Pred. No. 0.93;
tive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 15; Length 1173; 0.93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.9%; Score 22; DB 100.0%; Pred. No. 0.9 Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                   966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                      960 rcrerrcacaarrercerrrca 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 960 rererreacaarrerecrirea 981
PRIOR APPLICATION NUMBER: 0101223.6 PRIOR FILING DATE: 2001-01-17 WUMBER OF SEQ ID NOS: 10 SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 1.9
Best Local Similarity 100.
Matches 22; Conservative
                                                                                                                                                                   TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , LOCATION: (1)...(1173)
US-10-290-078-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
US-10-272-983-13
                                                                                                             SEQ ID NO 1
LENGTH: 1173
                                                                                                                                                                                                                           US-10-052-193-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
```

·.

```
; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-723-955-13
                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: HOME
US-10-417-820A-13
                                                                                                                                                                                                                                                                                                             LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-723-955-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-417-820A-13

Sequence 13, Application US/10417820A

Publication No. USZ0030229216A1

SENERAL INPORMATION:

APPLICANT: Chen, Ruoping

APPLICANT: Chalmers, Derek T.

APPLICANT: Chalmers, Derek T.

APPLICANT: Chalmers, Derek T.

TITLE OF INVENTION: Constitutively Activated Human G Protein Coupled

TITLE OF INVENTION: Receptors

FILE REFERENCE: 7.052-0.01

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-11-27

PRIOR FILING DATE: 1999-02-16

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR APPLICATION NUMBER: 60/120,416

PRIOR PRILING DATE: 1999-02-26

PRIOR APPLICATION NUMBER: 60/120,416

PRIOR PRILING DATE: 1999-02-26

PRIOR APPLICATION NUMBER: 60/120,416

PRIOR PRILING DATE: 1999-02-26

PRIOR PRILING DATE: 1999-02-26

PRIOR PRILING DATE: 1999-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ 1D NOS: 74
SOFTWARE: PatentIn Ver. 2.1
SED 1D NO 13
LENGTH: 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.9%; Score 22; DB 15; Length 1173; 100.0%; Pred. No. 0.93; 0; Indels tive 0; Mismatches 0; Indels (
APPLICANT: Liaw, Chen W.
APPLICANT: Lin, 1-Lin
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors FILE REFERENCE: ARENOSO
CURRENY APPLICATION NUMBER: US/10/393,807
CURRENT FILING DATE: 2003-03-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                           CURRENT FILING DATE: 2003-03-121
PRIOR APPLICATION NUMBER: US/09/417,044
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-10-12
PRIOR PELING DATE: 1999-10-20
PRIOR PELING DATE: 1999-02-16
PRIOR PELING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-26
PRIOR FILING DATE: 1999-02-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960 rcigircacaarigicerrica 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 60/123,944
FILING DATE: 1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-393-807-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best_Local Similarity
Matches 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JS-10-417-820A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

```
PRIOR APPLICATION NUMBER: 60/121,948

PRIOR APPLICATION NUMBER: 60/121,948

PRIOR APPLICATION NUMBER: 60/121,948

PRIOR APPLICATION NUMBER: 60/121,948

PRIOR APPLICATION NUMBER: 60/121,951

PRIOR APPLICATION NUMBER: 60/121,952

PRIOR APPLICATION NUMBER: 60/121,952

PRIOR APPLICATION NUMBER: 60/121,952

PRIOR APPLICATION NUMBER: 60/121,952

PRIOR APPLICATION NUMBER: 60/121,953

PRIOR APPLICATION NUMBER: 60/121,953

PRIOR APPLICATION NUMBER: 60/121,953

PRIOR APPLICATION NUMBER: 60/121,953

PRIOR PRINCATION NUMBER: 60/121,953

PRIOR PRINCATION NUMBER: 60/121,954

PRIOR APPLICATION NUMBER: 60/121,9
```

SOFTWARE: Patentin Ver. 2.1

```
ö
                                                                       o;
                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 74
                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JUNIORATION NO. US20040137509A1
Sequence 13, Application US/10782596
Publication No. US20040137509A1
GENERAL INFORMATION:
APPLICANT: Chen, Ruoping
APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
TITLE REFERENCE: ARENOGSO
CURRENT FILING DATE: 2004-02-19
FRIOR FILING DATE: 2001-06-06
PRIOR PELION NUMBER: US/09/875,076
PRIOR FILING DATE: 1999-10-12
PRIOR PELING DATE: 1999-10-12
PRIOR PELING DATE: 1999-02-16
PRIOR PELING DATE: 1999-02-16
PRIOR PELING DATE: 1999-03-12
PRIOR PELING DATE: 1999-03-18
PRIOR PELING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.9%; Score 22; DB 17; Length 1173;
100.0%; Pred. No. 0.93;
tive 0; Mismatches 0; Indels (
Query Match
1.9%; Score 22; DB 17; Length 1173;
Best Local Similarity 100.0%; Pred. No. 0.93;
Matches 22; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/10737619
Publication No. US20040138234A1
GENERAL INPORMATION:
TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS
FILE REFERENCE: PC106-3A
CURRENT FILING DATE: 2003-12-16
PRIOR APPLICATION NUMBER: 0101223.6
PRIOR ALING DATE: 2001-01-17
NUMBER OF SEQ ID NOS: 10
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960 TCTGTTCACAATTGTCCTTTCA 981
                                                                                                                                        966 TCTGTTCACAATTGTCCTTTCA 987
                                                                                                                                                                                                      960 rererreacaarrerecrirea 981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.0
Matches 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
CRGANISM: Homo sapiens
US-10-737-619-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 15
US-10-782-596-13
                                                                                                                                                                                                                                                                                                         RESULT 14
US-10-737-619-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
```

. 0 CB981626 CABYOOODS
D70276 CELK101E1F
C69245 C69245 C69245 C69245 C69245
C6642921 tigr-gss-AZ150613 SP 0045 B
AZ150613 SP 0045 B
AZ1575854 MtBB19807
CE738419 tigr-gss-BH501816 BOGLG61TF
BG90643 TALT1151D
BZ473862 BONOTISTR
BF056033 7K07E09.x

Word size :

Searched:

Sequence:

Database :

Result

No.

H 27 E 4

U

AZ250002 RPCI-23-4 BJ152289 BJ152289 BH289608 CH230-62J AZ559416 RPCI-23-2 CB348956 CAB2SG000

AZ471542 1M0286009 CB914678 VVD013F03 BZ050817 jnr64b02. BZ392492 EINBH66TF

CB349043 CAB2SG000 AU217737 AU217737 CC960774 BOICC61TR

BH987629 oei37g11. CC752731 ZMMBBD013 CF538979 UI-M-GIO-

AZ381267 1M0137B15 CA375189 649814 NC CF147821 AGENCOURT

AY405330 Homo sapi AY405331 Pan trogl BG563625 602582370 CF661120 CcLL10a33 AA250969 zs07e11.s AZ491769 1M0325H05

CE700949 tigr-gss-AQ390595 CITBL-E1-CE849215 tigr-gss-BZ227627 CH230-400

S

nucleic

M

Run on:

```
CG392906 997 bp DNA linear GSS 22-SEP-2003 ZMMBBC0004Allf ZMMBBC (ECORI) Zea mays subsp. mays genomic clone ZMMBBC0004All 5', genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Bharti,A.K.
Dr.Joachim Messing's lab
The Plant Genome Initiative at Rutgers, Waksman Institute, Rutgers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zea mays subsp. mays (maize)
Zea mays subsp. mays
Eukaryota, Viridiplantaes, Streptophyta, Embryophyta, Tracheophyta;
Spermatophyta, Magnoliophyta; Liliopsida, Poales; Poaceae, PACCAD
clade, Panicoideae, Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 997)
Bharti,A.K., Young,S., Kavchok,S., Keizer,G., Bronzino,A.C.,
Rouzard,K., Fuke,G., Yu,Y., Wing,R. and Messing,J.
Sequencing of the maize genome at PGIR (2003b)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              University
190 Frelinghuysen Road, Piscataway, NJ 08854, USA
Tel: 345 3801
Fax: 732 445 5735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: bharti@waksman.rutgers.edu
Seq primer: T7
            AQ390595
CE849215
BZ227627
AY405330
AY405331
BG56363
CF661120
AAZ50969
                                                                                                                             AZ491769
CB981626
D70276
                                                                                                                                                                                      C69245
C6642921
AZ1-20613
AQ181200
AQ181200
CE378419
BHS01816
BGS06643
BGS06643
BC906643
BC906643
BC906643
BC906643
BC906643
BC906443
AZ250002
BJ15-20002
BJ15-20002
BJ15-20003
BJ15-20003
BJ15-20003
BJ15-20003
BJ15-20003
CC960774
AZ471542
CC960774
AZ471542
CC960774
AZ471542
CC960774
BZ392492
BZ392492
CC752731
CC5538979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AZ381267
CA375189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CF147821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CG392906
CG392906.1 GI:34336131
                                                                                                                                                                                                                                                                                                                                                                                                                                             29
                                                                                                                                                                                                                                                                 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (2003)
331
602
722
861
869
1023
1103
251
271
                                                                                                                                                                        360
                                                                                                                                                                                                                                  485
525
528
                                                                                                                                                                                                                                                                            537
                                                                                                                                                                                                                                                                                                         547
550
567
575
                                                                                                                                                                                                                                                                                                                                                                                                              632
636
636
636
650
650
676
687
687
687
697
704
                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 1
CG392906
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
0.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 4.4 % 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        υ
                                                                                                                                                                                                                                                                   υ
                                                                                                                                                                                                                                                                                                                                                                                                                                             υ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      υ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ט ט
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CG392906 ZMMBBc000
CC226484 CH261-690
BB418962 BB418962
CC584203 CH240_380
                                                                                                  October 1, 2004, 14:37:09 ; Search time 3518 Seconds (without alignments) 9982.355 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                         1 atgtcggagtctaacagtac......accagtcagtatcttcttga 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                           55026578
             GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                 residues
                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CG392906
CC226484
BB418962
CC584203
                                                                                                                                                                                                                                                                                                                                                                                                   summaries
                                                                      sw model
                                                                                                                                                                                                                                                                 27513289 segs, 14931090276
                                                                                                                                                                                                                      OLIGO_NUC
Gapop_60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΠD
                                                                      using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_gss_pro:*
em_gss_rod:*
em_gss_phg:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_gss_vrl:*
gb_gss1:*
gb_gss2:*
                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Listing first 45
                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_est5:*
em_estfun:*
em_estcom:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_gss_inv:*
em_gss_pln:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                em_gss_hum:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em_gss_vrt:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fun: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em gss mus:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mam: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29
10
29
                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_esthum:*
em_estin:*
em_estev:*
em_estpl:*
em_estpl:*
em_htc:*
gb_estl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match Length DB
                                                                                                                                                            US-10-626-445-5
1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gb_est2:*
gb_htc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gb_est3:*
gb_est4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                           em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           997
1051
274
764
                                                                        nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ea
                                                                                                                                                                                                                                                                                                                                                                                                                               ESI:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23
22
22
22
```

```
Mus musculus
                                                                                                                                                                  BB41896;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                   ORGANISM
                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                         RESULT 3
BB418962
                                                                                                                                                                  ACCESSION
                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CC226484 1051 bp DNA linear GSS 12-MAY-2003 CH261-69015_RM1.1 CH261 Gallus gallus genomic clone CH261-69015,
                                                                                                                    /sub_species="mays"
/db xref="taxon:4578"
/db xref="taxon:4578"
/clone="zwhBe0004A11"
/lab host="s. coli bH108"
/clone_lib="zwhBBc (EcoRI)"
/note="Vector: pTARBAC2.1; Site_1: EcoRI; Site_2: EcoRI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /sex="female"
/cell line="UCD001, inbred 256"
/clone lib="HCD001, inbred 256"
/clone lib="WetCr: PIABBAC2 1; Site 1: EcoRI; Site 2: EcoRI;
/note="WetCr: pIABBAC2 1; Site 1: EcoRI; Site 2: EcoRI;
CH261 Female Chicken library - For library and clone
ordering information: http://www.chori.org/bacpac"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gallus gallus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (bases 1 to 1051)

Kremitzki, C., Higginbotham, J., Wylie, K., Carter, J., McPherson, J., Warren, W., Graves, T., Mardis, E. and Wilson, R.
Gallus gallus BAC End Reads
Unpublished (2003)

Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.0%; Score 23; DB 28; Length 1051;
                                                                                                                                                                                                                                                                                    2.0%; Score 23; DB 29; Length 997;
100.0%; Pred. No. 3.1;
                                                                                                                                                                                                                                                                                                                               0; Indels
                                                             organism="Zea mays subsp. mays"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Richard ...
Genome Sequencing Center
Washington University School of Medicine
Email: submissions@watson.wustl.edu
Email: submissions@watson.wustl.edu
Email: submissions@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Insert Length: 182000 Std Error: 0
Seq primer: RM1 TACGACTCACTATAGGGAGA
Class: BAC ends
                                                                                                                                                                                                                                                                                               100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Prea. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /mol_type="genomic_DNA"
/strain="Red Jungle Fowl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Gallus gallus"
                                                                            /mol_type="genomic DNA"
/cultivar="B73"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              High quality sequence start: 19
High quality sequence stop: 360.
Location/Qualifiers
High quality sequence start: 97.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:9031"
/clone="CH261-69015"
                                                                                                                                                                                                                                                                                                                                                                                                         402 ArririaArcricircarrigcer 424
                                                                                                                                                                                                                                                                                                                                                                   57 ATTTTTAATGTCTTCATTTGCCT 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  genomic survey sequence.
CC226484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CC226484.1 GI:30553147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gallus gallus (chicken)
                                                                                                                                                                                                                                                                                                                               Conservative
                                          .997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 23; Conserv
                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC226484/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                   à
```

Gaps

.; 0

0; Indels

151 AATTATTTTTTTTTGGC 173

23; Conservative

Matches

ò

849 AATTATTTTTTTTGGC 827

```
ALYSANIAZAKI,Y.

RIKEN Mouse ESTS (Konno, H., et al.)

LUpublished (2000)

Contact: Yoshihide Hayashizaki
Laboratory for Genome Exploration Research Group, RIKEN Genomic
Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
Tel: 81-45-503-9216
Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
URL:http://genome.res@gsc.riken.go.jp/
URL:http://genome.gsc.riken.go.jp/
URL:http
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1. (Dases 1 to 274)

S. Konno, H., Aizawa, K., Akahira, S., Akiyama, J., Arakawa, T.,
Carninci, P., Endo, T., Pukuda, S., Fukunishi, Y., Hara, A., Hayatsu, N.,
Itawa, M., Kadota, K., Kagawa, I., Ishikawa, T., Itoh, M.,
Izawa, M., Kadota, K., Kagawa, I., Kai, C., Kawai, J., Kikuchi, N.,
Kiyosawa, H., Kojima, Y., Kondo, S., Koya, S., Kurihara, C.,
Kusakabe, M., Matsuyama, T., Miki, R., Mizuno, Y., Nakamura, M., Oda, H.,
Okazaki, Y., Ono, T., Owa, C., Saito, H., Sakai, C., Sato, K.,
Shibata, Y., Shipata, Y., Shigemoto, Y., Shinagawa, A., Shiraki, T.,
Sogabe, Y., Sugahara, Y., Suzuki, H., Yazuki, H., Tagawa, A.,
Takahashi, F., Tominaga, N., Toya, T., Tsunoda, Y., Matahiki, A.,
Watanabe, S., Yamamura, T., Yamanaka, I., Yasonishi, A.,
Hayashizaki, Y.
BB418962 RIXEN full-length enriched, 12 days embryo spinal cord Mus musculus cDNA clone C53004915 3' similar to AF117947 Homo sapiens PDZ domain-containing guanine nucleotide exchange factor I mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inote="Site 1: Sal1; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. 1st strand cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone lib="RIKEN full-length enriched, 12 days embryo spinal_cord"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Please visit our web site (http://genome.rtc.riken.go.jp) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tissue type="spinal cord"
/dev stage="12 days embryo"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="mRNA"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="C530014D15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                             BB418962.1 GI:9240317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            further details.
                                                                                                                                                                                                                                                 mRNA sequence.
```

.; 0

Matches

ORIGIN

ACCESSION VERSION KEYWORDS REFERENCE

FEATURES

```
Homo sapiens
                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Venter, J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22875432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AQ390595
                                                            Query Match
Best Local Simi
Matches 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AQ390595/c
LOCUS
                                                                                                                                                                                                                                                                                       CE700949/c
                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                      ð
                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: rhol(@bogsc.ca
Clones are derived from the bovine BAC library CHORI-240
(http://www.chori.org/bacpac/bovine240.htm). For BAC library
availability, please contact Pieter de Jong (pdejong@mail.cho.org).
Clones may be purchased from BACPAC Resources
(http://www.chori.org/bacpac/ordering_information.htm). This work
was undertaken as part of the International Bovine BAC Mapping
Consortium (IBBMC) by CSIRO Livestock Industries, Australia and the
British Columbia Genome Sciences Centre, Canada.
                                    prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by cap-trapper. Second strand cDNA was prepared with the primer adapter of sequence [5' ASAGARAGATTCTCGACTTARTAANTAATCCCCCCCCCCCC 3']. CDNA was cleaved with XhoI and BamHI. Vector: a modified pBluescript KS(+) after bulk excision from Lambda FLC I."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CC584203 764 bp DNA linear GSS 18-JUN-2003 CH240_380N19.T7 CHORI-240 Bos taurus genomic clone CH240_380N19,
                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Holt.R., Stott.J., Yang,G., Barber,S., Smailus,D., Prabhu,A.-L., Tsai,M., Cloutier,A., Lee,D., Girn,N., Olson,T., Mayo,M., Butterfield,Y., Kirkpetrick,R., Liu,J., Guin,R., Chan,A., Chiu,R., Mathewson,C., Wye,N., Masson,A., Brown-John,M., Jones,S., Schein,J., Marra,M., de Jong,P., McWilliam,S., Barris,W., Balrymple,B.P. and Tellam,R.

Bovine BAC End Sequences from Library CHORI-240, PLATES 294 to 398
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /cell_type="Blood"
/clone lib="CHORI-240"
/note="Vector: pTARBACL3; Site 1: MboI; Site 2: MboI;
/Hereford bull li Domino 99375; CHORI-240 Bovine BAC
                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The control of the columbia Cancer Agency Genome Science Centre 600 W. 10th Ave, Vancouver, British Columbia, Canada V5Z 4E6 Tel: 604-877-6085
                                                                                                                                                                                                                                                                                       ..
0
                                                                                                                                                                                                                                         Query Match 1.9%; Score 22; DB 10; Length 274; Best Local Similarity 100.0%; Pred. No. 8.8;
                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (2003)
Other GSSs: CH240_380N19.TARBAC13P2
Contact: Rob Holt
                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="genomic DNA"
/strain="breed: Hereford"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          organism="Bos taurus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           db_xref="taxon:9913"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone="CH240_380N19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                              150 TAATTATTTTTTTTG 171
                                                                                                                                                                                                                                                                                                                                                                          54 raarrarrirrircriaarrig 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CC584203.1 GI:31934631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sex="Male"
                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . .764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos taurus (cow)
Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC584203
                                                                                                                                                                                                                                                                                    22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 4
CC584203/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
COMMENT
```

```
602 bp DNA linear GSS 06-MAR-1999 CITBI-E1-2544B13.TR CITBI-E1 Homo saplens genomic clone 2544B13, AD130F.R.
                                                                                                                                                                                                                                                                                            131 bp DNA linear GSS 29-SEP-2003 tigr-gss-dog-17000368904282 Dog Library Canis familiaris genomic, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14512627
Contact: Kirkness BF
The Institute for Genomic Research
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,
Rockville, MD 20850, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 602)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Carnivora, Fissipedia, Canidae, Canis.
                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 (bases 1 to 331)
Kirkness, E.F., Bafna, V., Halpern, A.L., Levy, S., Remington, K.,
Rusch, D.B., Delcher, A.L., Pop, M., Mang, W., Fraser, C.M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="raxon:9615"
/clone.lib="Dog Library"
/note="Site.l: BstXI; Libraries were prepared from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The dog genome: survey sequencing and comparative analysis Science 301 (5641), 1898-1903 (2003)
                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
0
                                                                  764;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.8%; Score 21; DB 29; Length 331;
library (Male) produced by Pieter de Jong'
                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                Length
                                                                                                             ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ..
                                                                DB 29;
9.9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Canis familiaris"
/mol_type="genomic DNA"
/strain="Standard Poodle"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 30;
Mismatches
                                                              1.9%; Score 22; DB ilarity 100.0%; Pred. No. 9.9 Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          location/Qualifiers
                                                                                                                                                           370 GCTCAACACACTGGCATCATGA 391
                                                                                                                                                                                                      635 GCTCAACACACTGGCATCATGA 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         549 GGAATTCCTGCTTCCTGTCAT 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGAATICCIGCTICCIGICAL 276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tel: 301-838-0200
Fax: 301-838-0208
Email: ekirknes@tigr.org
Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                      CE700949
CE700949.1 GI:37020173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AQ390595.1 GI:4361618
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Canis familiaris (dog)
Canis familiaris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
```

·.

```
Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                         RESULT 8
BZ227627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                           g
Shao,S., Adams,M.D., Nierman,W., Malek,J., Shizuya,H., Simon,M. and Venter,J.C.

Venter,J.C.

Venter,J.C.

Venter,J.C.

Venter,J.C.

Venter, J.C.

Map Building

Unpublished (1997)

Other Gass: CITBLEL-2544B13.TF

Contact: Shaying Zhao, William Nierman, Mark Adams

Department of Eukaryotic Genomics

The Institute for Genomic Research

9712 Medical Center Dr., Rockville, MD 20850

Tel: 301 838 0200

Fax: 301 838 0200

Fax: 301 838 0200

Email: bho@tigr.org

Clones are available from Research Genetics (info@resgen.com). BAC

Http://www.tigr.org/tdb/humgen/bac_end_search/bac_end_search.html.

Seq primer: M13 Reverse

Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSS 01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Kirkness EF
The Institute for Genomic Research
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,
Rockville, MD 20850, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis. 1 (bases 1 to 722) Kirkness, E.F., Bafna, V., Halpern, A.L., Levy, S., Remington, K., Rusch, D.B., Delcher, A.L., Pop, M., Wang, W., Fraser, C.M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /cell_type="sperm"
/clone_tib="Cirell-E"
/note="Wettor: pBeloBAC11; Site_1: EcoR1; Site_2: EcoR1;
CalTech Human BAC Library D"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   רבסבר GSS 01-OCT-20 לבלבר CSS 01-OCT-20 tigr-gss-dog-17000332984147 Dog Library Canis familiaris genomic, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The dog genome: survey sequencing and comparative analysis Science 301 (5641), 1898-1903 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28; Length 602;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Canis familiaris"
/mol_type="genomic DNA"
/strain="Standard Poodle"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
1.8%; Score 21; DB
Best Local Similarity 100.0%; Pred. No. 32;
Matches 21; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Class: shotgun.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          640 AGCCATGCTGGATTCTCCACT 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  498 AGCCATGCTGGATTCTCCACT 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="2544B13"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tel: 301-838-0200
Fax: 301-838-0208
Email: ekirknes@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CE849215.1 GI:37214951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Canis familiaris (dog)
Canis familiaris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                            .602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Venter, J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CE849215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14512627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 7
CE849215/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
          AUTHORS
                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                 TITLE
                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
(http://www.chori.org/bacpac/rat230.htm). For BAC library availability, please contact Pieter de Jong (pdejong@mail.cho.org). Clones may be purchased from BACPAC Resources (http://www.chori.org/bacpac/or ering information.htm). BAC end page: http://www.tigr.org/tdb/bac_ends/rat/bac_end_intro.html Plater 400 row: N column: 17 Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BZ227627
CH230-400N17.TV CHORI-230 Segment 2 Rattus norvegicus genomic clone
CH230-400N17, genomic survey sequence.
                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Labo, S. Shetry, J., Shatsman, S., Tsegaye, G., Geer, K., Shvartsbeyn, A., Gebregeorgis, E., Overton, L., Russell, D., Chen, D., Ruggs, F., de Jong, P. and Fraser, C.M.
Rat BAC End Sequences from Library CHORI-230 MboI segment Unpublished (1999)
Other GSSS: CH230-400NI7.TJ
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
1712 Month of Eukaryotic Genomic Research
The Institute for Genomic Research
172 Month of Eukaryotic Genomic Research
The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /sex="Female"
/cell_type="Brain"
/clone_lib="Chor1-230 Segment 2"
/note="Vector: pTARBACL.3; Site_1: MboI; Site_2: MboI;
CHORI-230 Rat (BN/SsNHsd/MCW) BAC library produced by
                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                           /clone lib="Dog Library"
/note="Site 1: BstXI; Libraries were prepared from
peripheral blood"
                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: szhao@tigr.org
Clones are derived from the rat BAC library CHORI-230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.8%; Score 21; DB 28; Length 861;
100.0%; Pred. No. 33;
trive 0; Mismatches 0; Indels
                                                                                                                                                                                 29; Length 722
                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Rattus norvegicus"
                                                                                                                                                                              DB 2
                                                                                                                                                                                                             100.0%; Pred. No. 33; ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="genomic DNA"
/strain="BN/SsNHsd/MCW"
                                                                                                                                                                                    1.8%; Score 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:10116"
/clone="CH230-400N17"
/db xref="taxon:9615"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                       TTTCTTA 166
                                                                                                                                                                                                                                                                                                                                                               188 GAAGTAATTATTTTTTTTA 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195 TITGATITCCATICCTCTGTA 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             452 Trrcarriccárrccrcrera 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BZ227627
BZ227627.1 GI:23886168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pieter de Jong'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 861)
                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21; Conservative
                                                                                                                                                                                                                                                                                                    146 GAAGTAATTATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .861
                                                                                                                                                                              Query Match
Best Local Similarity
Matches 21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
```

```
BG563625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
BG563625/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
                                                                                                  TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                    FEATURES
                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GSS 16-DEC-2003
                                                                              GSS 16-DEC-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALTUDSSI
Pan troglodytes MTNRIA gene, VIRTUAL TRANSCRIPT, partial sequence,
avance,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan. 1 (Dases 1 to 869)
Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Perriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalla; Eutherita; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 869)
Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., A.G., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Sheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
                                                                                                                                                                                                                                                                                                                                                                                     Inferring nonneutral evolution from human-chimp-mouse orthologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Inferring nonneutral evolution from human-chimp-mouse orthologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA This sequence was made by sequencing genomic exons and ordering them based on alignment.

Location/Qualifiers
                                                                            AY405330 869 bp DNA linear GSS 16-DEC.
Homo sapiens MTNR1A gene, VIRTUAL TRANSCRIPT, partial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.8%; Score 21; DB 29; Length 869;
100.0%; Pred. No. 34;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene trios
Science 302 (5652), 1960-1963 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                             Science 302 (5652), 1960-1963 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="MTNR1A"
/locus_tag="HCM2188"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pan troglodytes (chimpanzee)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    939 TITIGCCATTIGCTGGGCTCC 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          554 rrreccarrecredecrec 574
                                                                                                                         genomic survey sequence.
                                                                                                                                                           AY405330.1 GI:39761304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ĀY405331
AY405331.1 GI:39761305
                                                                                                                                                                                                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . . 869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pan troglodytes
                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                 gene trios
                                                                                                                                                                                                                                                                                                                                                                                                                                                     14671302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14671302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local
                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
AY405331
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PUBMED
                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                           VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                         AY405330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                    SOURCE
```

```
/clone="Images:4710281"
/lab_host="Images:4710281"
/lab_host="Images:4710281"
/clone=lib="NIH MGC_76"
/clone=lib="NIH MGC_76"
/note="Organ: liver; Vector: pDNR-LIB (Clontech); Site_1:
Sfil (ggccgctcggcc); Site_2: Sfil (ggccattatggcc); 5' and
3' adaptors were used in cloning as follows: 5' adaptor
sequence: 5'-CACGGCCATTATGGCC-3' and 3' adaptor sequence:
5'-ATTCTAGAGGCCGACTATGGCC-3' and 3' adaptor sequence:
5'-ATTCTAGAGGCCGAGGGGCGCCATG-GT(30)BN-3' (where B = A,
C, or G and N = A, C, G, or T). Average insert size 1.85
kb (range 1.0-4.0 kb): 15/15 colonies contained inserts
by PCR. This library was enriched for full-length clones
and was constructed by Clontech Laboratories (Palo Alto,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BG563625 10-4PR-2001 1025 Bp mRNA linear EST 10-4PR-2001 602582370F1 NIH_MGC_76 Homo sapiens cDNA clone IMAGE:4710281 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: Cgapbs-romail.nih.gov
Tissue Procurement: CLONETECH Laboratories, Inc.
Thissue Procurement: CLONETECH Laboratories, Inc.
CDNA Library Preparation: CLONETECH Laboratories, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.lln.gov
Plate: LLCM1548 row: k column: 18
High quality sequence stop: 502.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1023)
14H-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
2 (bases I to 869)
Clark, A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A., Todd,M.A., Tamenbaum,D.M., Civello,D.R., Lu,F., Murphy,B., Ferriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J., Adams,M.D. and Cargill,M.
Direct submission
Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA
This sequence was made by sequencing genomic exons and ordering them based on alignment.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 21; DB 29; Length 869;
Pred. No. 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.8%; Scott
100.0%; Pred. No. 3...
                                                                                                                                                                                                                                                                                                                                                               /organism="Pan troglodytes"
/mol_type="genomic DNA"
/db_xref="taxon:9598"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                          <li... >869
/gene="MTNR1A"
/locus_tag="HCM2188"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          939 TTTTGCCATTTGCTGGGCTCC 959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   554 rrrreccarrrecreserre 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG563625.1 GI:13571277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1, .1023
                                                                                                                                                                                                                                                                                                                                     .869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA sequence.
```

DEFINITION

LOCUS

ACCESSION

VERSION KEYWORDS SOURCE

RESULT 12 CF661120

Dp ð

Matches

ORIGIN

ORGANISM

AUTHORS TITLE

JOURNAL

COMMENT

REFERENCE

```
/action lib="Nuclear gcBl" / Action lib="Nuclear gr773D-Pac (Pharmacia) with a modified / note="Vector: pT773D-Pac (Pharmacia) with a modified polylinker; Site 1: Not 1; Site 2: Eco RI; 1st strand cDNA was prepared from human tonsillar cells enriched for germinal center B cells by flow sorting (CD20+, IgD-), provided by Dr. Louis M. Staudt (NCI), Dr. David Allman (NCI) and Dr. Gerald Marti (CBER). CDNA synthesis was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Adminitry 1709 271 bp DNA linear GSS 05-OCT-200
1M0325H05R Mouse 10kb plasmid UUGCIM library Mus musculus genomic
clone UUGCIM0325H05 R, genomic survey sequence.
AZ491769
                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 251)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                       Email: cgapbs-r@mail.nih.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information. Seg primer: -41n13 fwd. ET from Amersham
High quality sequence stop: 245.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . Double-stranded cDNA was ligated to Eco RI adaptors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 271)

Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacze, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Rose, R., Tingey, A., von Niederhausern, A. and Wright, D., Weiss, R. Mouse whole genome scaffolding with paired end reads from 10kb plasmid inserts
Unpublished (2000)
Contact: Robert B. Weiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        constructed by Bento Soares and M. Fatima Bonaldo."
similar to contains Alu repetitive element;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.7%; Score 20; DB 9; Length 251; 100.0%; Pred. No. 96; 0; Indels ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /mol_type="mRNA"
/db_xref="taxon:9606"
/db_xref="IMAGE:684524"
/tissue_type="germinal center B cell"
/lab_host="DH108"
                                                                                                                                                                                                                                                                                                                                                 Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .251
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            910 GCCAGGTCACTGGCCATCCT 929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                173 GCCAGGTCACTGGCCATCCT 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AZ491769.1 GI:10663795
                           AA250969
AA250969.1 GI:1885930
                                                                                                      Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                               Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 20; Conserv
                                                                                EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Source
                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AZ491769/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
COMMENT
                              ACCESSION
                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                          EST 07-0CT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA250969 251 bp mRNA linear EST 13-AUG-1997 zs07ell.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:684524 3'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Andrew R. Cossins
Laboratory for Environmental Gene Regulation
University of Liverpool
School of Biological Sciences, The Biosciences Building, Crown
Street, Liverpool, United Kingdom, L69 7ZB
Tel: +44(0)151-795-4510
Fax: +44(0)151-795-4510
Fax: +44(0)151-795-4510
Fax: +44(0)151-795-431
Email: cossins@liv.ac.uk
Vector has been trimmed from this EST.
Plate: 33 row: n column: 22
Seq primer: TriplEx 5' LD (5'-CTGGGGAAGCGCCATTGTGTTGTT-GT-3')
High quality sequence start: 35
High quality sequence store: 35
High quality sequence store: 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Cyprinus.
                                                                                                                                                                                                                                                                                                                                                                     CF661120 1103 bp mRNA linear EST 07-0CT.
CCLL10a33n22f1 Carp liver library 5 Cyprinus carpio cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clome lib="Carp liver library 5"
/note="Vector: pTriplEx2; Site 1: Sfil GGCCATTACGGCC; Site 2: Sfil GGCCGCTCGGCC; Serially subtracted cDNA library prepared from liver of warm, cold and hypoxia challenged animals"
                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gracey, A.Y., Fraser, E., Li, W. and Cossins, A.R. Microarray and EST analysis of the carp (Cyprinus carpio) transcriptome during environmental stress
                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                Length 1023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1.8%; Score 21; DB 14; Length 1103;
                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
CA). Note: this is a NIH MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue type="Liver"
/dev_stage="Adult"
/lab_host="E.coli_Electromax_DH10B"
                                                                             DB 12;
34;
                                                       1.8%; Scor.
100.0%; Pred. No. 5..,
'.. 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pred. No. 35;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .1103
/organism="Cyprinus carpio"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:7962"
/clone="33n22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cyprinus carpio (common carp)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'sex="Male & female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                      150 TAATTATTTTTTTT 170
                                                                                                                                                                                                                                        720 fartritritritri 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540 AATGCTCTTGGAATTCCTGCT 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 214 AATGCTCTTGGAATTCCTGCT 234
                                                                                                                                                                                                                                                                                                                                                                                                                 33n22 5', mRNA sequence.
CF661120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CF661120.1 GI:37558249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0
Matches 21; Conservative
                                                                                                                               21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cyprinus carpio
                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA250969
```

source

FEATURES

DEFINITION

AA250969 LOCUS RESULT 13

à

·;

Gaps

; 0

GSS 05-OCT-2000

```
source
                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a was hydrodynamically sheared by repeated passage through a was blunt end-repaired with T4 DNA polymerase and T4 was blunt end-repaired with T4 DNA polymerase and T4 DNA 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10.5 Kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMO42 (gi|4732114|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to
University of Utah Genome Center
University of Utah
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  adaptored vector DNA, and transformed into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /lab_host="E. Coli strain XLJO-Gold, Tl-resistant, F-"
/clone_lib="Mouse 10kb plasmid UUGCIM library"
/note="Wector: PWD42Iny; Purified genomic DNA from M.
musculus C57BL/6J (Male) was obtained from the Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                 Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Brror: 0.00
Plate: 0325 row: H column: 05
Seg primer: CACACAGGAAACAGCTAATGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Laboratory Mouse DNA Resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Class: plasmid ends
High quality sequence stop: 271.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:10090"
/clone="UUGC1M0325H05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sex="Male"
                                                                                                                                                                                                                                                                                Tel: 801 585 5606
Fax: 801 585 7177
                                                                                                                                                                                                               USA
```

Source

FEATURES

/done lib="Caberner Sauvignon Berry Post-Veraison - CAB7"
/done lib="Caberner Sauvignon Berry Post-Veraison - CAB7"
/note="Corgan: Berry; Vector: pDNR; Site 1: Sfil; Site 2:
Sfil; CAB7 is a cDNA library of Caberner Sauvignon Clone 8
berries. Samples were collected post-veraison from
field-grown vines during stage III of berry growth at 89
days after full bloom. Berries soluble solid concentration
ranged between 18-19 brix. Sampled vines were located at
the University of California, Davis, Experimental
Vineyand. cDNss were made by oilgo-dr priming and directi
onally cloned. S'and's' adaptors were used in cloning as
follows: S'-AAGCAGGCGCGACAGGTGGT(3T) and
S'-ATTTRAGAGCGGGCGCAATGT(3T) albrary was
constructed using the Clontech Creator SMRT kit and
size-selected to contain the 0.5-3 kb size fraction."

/dev_stage="Post-Veraison, 18-19 brix" /lab_host="DH5alpha"

/organism="Vitis vinifera" /mol_type="mRNA" /cultivar="Cabernet Sauvignon"

db_xref="taxon:29760" /clone="CAB70005_IIIaF_B07" /sex="Hermaphrodite"

UC Davis, Plant Pathology
One Shields Ave, Davis, CA 95616, USA
Tel: 530 754 6561
Email: drcook@ucdavis.edu
Seq primer: ACGGTACCGGACATATGCC.

Location/Qualifiers

```
.,
                                                     Gaps
                                                  .
      Score 20; DB 14; Length 279; Pred. No. 97;
                                                  0; Indels
Query Match 1.78; SCLL - ... 97;
Best Local Similarity 100.0%; Pred. No. 97;
Matches 20; Conservative 0; Mismatches
                                                                                                                                                                                                  Search completed: October 1, 2004, 18:37:41
Job time: 3527 secs
                                                                                          822 TGCCTTCAAAGTGGGTTCCT 841
                                                                                                                                  61 recerreaaagregerreer 42
```

ö

Gaps ..

1.7%; Score 20; DB 28; Length 271; 100.0%; Pred. No. 97; ive 0; Mismatches 0; Indels

Query Match
Best Local Similarity 100.
Matches 20; Conservative

ORIGIN

à

RESULT 15 CB981626/c

DEFINITION

CAB70005 IIIaF B07 Cabernet Sauvignon Berry Post-Veraison - CAB7 Vitis vinifera CDNA clone CAB70005_IIIaF_B07 5', mRNA sequence.

CB981626.1 GI:30304832

Vitis vinifera

ORGANISM VERSION KEYWORDS SOURCE ACCESSION

REFERENCE AUTHORS

Vitis vinifera
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Bukaryophyta, Magnoliophyta, eudicotyledons, core eudicots;
rosids, Vitaceae, Vitis.
1 (bases 1 to 279)
Goes da Silva,F., Iandolino,A., Lim,H., Baek,J., Jones,K. and

Expressed sequence tags from cabernet sauvignon berries at various

developmental stages Unpublished (2003) Contact: Douglas Cook, PhD CAES Genome Facility

JOURNAL

COMMENT

TITLE

This Page Blank (uspto)

Н

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

October 1, 2004, 10:05:02; Search time 59 Seconds (without alignments) 1872.476 Million cell updates/sec Run on:

Title: Perfect score:

US-10-626-445-8

2048 1 MSESNSTGILPPAAQVPLAF.......WKILCVTKWPALSQNQSVSS 391 Sequence:

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

1586107 segs, 282547505 residues Searched:

1586107 Total number of hits satisfying chosen parameters:

DB seq length: 0 DB seq length: 2000000000 Minimum I Maximum I

Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries

A Geneseq 29Jan04:* Database :

geneseq11980s:* geneseq11980s:* geneseq2000s:* geneseq2011s:* geneseq2010s:* geneseq2010s:* geneseq2010s:* geneseqp2004s:* Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	Aam50565 Mouse his	Dat hiet		Human		7 Himan	Human	Human	9 Human	6 Amino	Human	Human	Amino	Human	5 Human	7 Human hi	7 Human	Aam53052 Human G p	Aam53053 Human G D	G		7 Guinea	5 Human F	Aae36414 Human H4	
	ID	AAM50565	AAM50566	AAB02831	AAY71297	AAB62445	AAG64477	AAB73622	AAM53050	ABP98629	ABB78276	AAM50564	AAG66023	AAU74906	ABG71960	ABU92265	ABP81727	AAE36417	AAM53052	AAM53053	AAM51410	AAE36416	AAM50567	AAE36415	AAE36414	0000000
	DB 1	 			3	4		4	5	5	2		-				9				·			_	_	
	Length	391	391	390	390	390	390	390	390	390	390	390	390	390	390	390	390	390	391	392	390	390	389	357	336	415
æ	Query Match	Ų1	85.2	æ	6.99	6.99	6.99	ġ.	Ģ.	6.99	66.99	6.99	6.99	6.99	6.99	6.99	6.99	6.99	6.99	6.99	66.7	66.7	0		ς.	35
	Score	2035	1745	1370.5	1370.5	1370.5	1370.5	1370.5			1370.5	1370.5	1370.5					1370.5			. 99	1366.5	1238	1198	_	729.5
	Result No.	7	7	m	4	ß	9	7	80	6	10	11	12	13	14	15	16	17				21				25

5 Human 2 Human 0 Human	Aay92218 Human his Aab30627 A human h Abb79792 Human his	Human Human Human	Human Human Human Human	AAC2552/ DUMBH WIL AAC22854 Human his Aay22208 Human G-p Aab15381 Human G-p	\sim
AAW92975 AAY06322 AAG67830	AAY92218 AAB30627 ABB79792	ABP57425 AA019746 ABP81687	ABG74567 ABG76405 ABP59931 AAC29527	ADD22854 AAY22208 AAB15381	ABG12680 ABR43668 ABP57426
0000	ማ ተ የህ ለ	9 99 99	9997	- 12 W	400
4 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 4 4 4 4 4 4 7 7 7 7	. 4. 4. 4. 6. 4. 4. 4. 7. 7. 7. 7. 7.	4 4 4 4 4 4 4 4 4 5 5 5 5 5 5 5 5 5 5 5	445 453 453	449 445 445
יי יי יי יי	355.55		3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	35.3	35.1 35.1 35.1
	722.5		722.5		719.5 718.5 718.5
227	388		3 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		44 44 5

ALIGNMENTS

AAM50565 standard; protein; 391 AA. Mouse histamine H4 receptor. (first entry) 18-MAR-2002 RESULT 1

Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy.

Mus musculus.

WO200192485-A1.

06-DEC-2001.

22-FEB-2001; 2001WO-US005914.

31-MAY-2000; 2000US-0208260P.

(ORIH) ORTHO-MCNEIL PHARM INC.

Lovenberg T, Liu C;

WPI; 2002-114339/15. N-PSDB; AAI70981.

encoding . 1 ŗ. New mammalian histamine H4 receptor proteins and polynucleotides the proteins, useful in gene therapy for treating diseases where beneficial to elevate mammalian histamine H4 receptor activity.

Claim 13; Fig 5B; 92pp; English.

The present sequence is that of a mouse histamine receptor of the H4 subtype, as predicted from a cDNA clone isolated from a spleen cDNA library. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AANI0980-83) and polypeptides (see AANG0564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the trearment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the histamine H4 receptor. Such modulators may be useful

```
AAB02831;
                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                          19
                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB02831
                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB02831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
#X8X55555555555555558888
                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                        ò
                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mammalian histamine H4 receptor proteins and polynucleotides encoding proteins, useful in gene therapy for treating diseases where it is
                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                              240
                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                   300
                                                                                                                                                                          180
for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                    09
                                                                                                                                      DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                   SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                MSESNSTGILPPAAQVPLAFIMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                          SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                             MILEFIL PVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                         PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                            RKLARSLAIILISAFAICWAPYCLFTIVLSTYPRIERPKSVWYSIAFWLOWFNSFVNPFLY
                                                                                                    1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Histamine H4 receptor; rat; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy.
                                                                                  ·
0
                                                                 Length 391;
                                                                                 Indels
                                                                Score 2035; DB 5; I
Pred. No. 1.9e-202;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                      PLCHRRFQKAFWKILCVTKQPALSQNQSVSS 391
                                                                                                                                                                                                                                                                                                                         PLCHRRFQKAFWKILCVTKWPALSQNQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                        AAM50566 standard; protein; 391 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ORTH ) ORTHO-MCNEIL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-FEB-2001; 2001WO-US005914
                                                                  99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                             Rat histamine H4 receptor.
                                                                Query Match
Best Local Similarity 99.7
Matches 390; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lovenberg T, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-114339/15.
N-PSDB; AAI70982.
                                                 Sequence 391 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200192485-A1
                                                                                                                                                                                                                                                                                                                                                                                                                            18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-DEC-2001
                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                          AAM50566;
                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                      241
                                                                                                                                          61
                                                                                                                                                          61
                                                                                                                                                                                                                                                    241
                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New I
                                                                                                                                                                                                                                                                                                                                                                       RESULT 2
AAM50566
                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                           a
                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                      qq
                                                                                                                                                                        ò
                                                                                                                                                                                                          ò
    2222233
                                                                                                      à
                                                                                                                    g
                                                                                                                                         à
```

```
The present sequence is that of a rat histamine receptor of the H4 subtype, as predicted from a cDNA clone isolated from a spleen cDNA clubtype, as predicted from a cDNA clone isolated from a spleen cDNA clibrary. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AAA70980-83) and polypeptides (see AAA90564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing aschma, allergy, inflammation, cardinabetes mellitus, hypersylvemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; G protein coupled receptor; GPCR; transmembrane receptor; identification; agonist; screening; therapeutic; pharmaceutical; mutant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MSESNGTDVLPLTAQVPLAFLMSLLAFAITIGNAVVILAFVADRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 DFFVGVISIPLYIPHTLENWNFGSGICMFWLITDYLLCTASVYSIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 RYRAQHIGILKIVAQMVAVWILAFLVNGPMILASDSWKNSTNIECEPGFVTEWYILAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTBWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
beneficial to elevate mammalian histamine H4 receptor activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human G protein coupled receptor hRUP7 protein SEQ ID NO:14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         85.2%; Score 1745; DB 5;
84.9%; Pred. No. 2.6e-172;
ive 17; Mismatches 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLCHRRFOKAFWKILCVTKWPALSQNQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLCHRRFQKAFWKILCVTKQPAPSQTQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; protein; 390
                                                                     English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3est Local Similarity 84.98
Aatches 332; Conservative
                                                                         6A; 92pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 391 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200022131-A2
                                                                     Claim 13; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-APR-2000
```

360

ö

9 9 120

us-10-626-445-8.rag

ന

Page

240

358

```
SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA 298
   SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                             MILEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                       Human; orphan G protein-coupled receptor; GPCR; hRUP7; drug screening; transmembrane receptor; signal cascade.
                                                                 179 SFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL
                                                                                     PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                           RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                      Human orphan G protein-coupled receptor hRUP7.
                                                                                                                                                                         PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lin I;
                                                                                                                                                                                                                                                    AAY71297 standard; protein; 390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0121852P.
99US-0123946P.
99US-0123949P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  990S-0136439P
990S-0136567P.
990S-0137127P.
990S-0137131P.
990S-0141448P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0156633P.
99US-0156634P.
99US-0156653P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0157280P.
99US-0157281P.
99US-0157282P.
99US-0157293P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0136436P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-00416760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-00417044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Liaw CW,
                                                                                                                                                                                                                                                                                            02-NOV-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (AREN-) ARENA PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2000-400068/34.
N-PSDB; AAD01124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dang HT,
                                                                                                                                                                                                                                                                                                                                                                                           WO200031258-A2
                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-MAY-1999;
28-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-1999;
01-OCT-1999;
01-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                       13-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-OCT-1999
   121
                                             181
                                                                                                          239
                                                                                                                               301
                                                                                                                                                    299
                                                                                                                                                                         361
                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chen R,
                   셤
                                          \delta
                                                               d
                                                                                    Š
                                                                                                       qq
                                                                                                                               ò
                                                                                                                                                  엄
                                                                                                                                                                       à
                                                                                                                                                                                          g
                                                                                                                                                                                                                                                              The present invention describes transmembrane receptors, preferably human grotein coupled receptors (GPCR), for which the endogenous ligand is unknown (orphan GPCR receptors). More specifically the present invention relates to non-endogenous, constitutively activated versions of a human GPCR. These non-endogenous human GPCRs can be useful for the direct identification of candidate compounds as receptors agonists, inverse agonists or partial agonists for use as pharmaceutical agents. AAA46017 to AAA46126 and AAB02825 to AAB02859 represent sequences used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Non-endogenous, human G protein-coupled receptors for screening receptor, inverse or partial agonists useful as therapeutic agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                Dang HT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                66.9%; Score 1370.5; DB 3; Length 390; 68.1%; Pred. No. 2.1e-133; ive 40; Mismatches 82; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                Chen R,
                                                                                                                                                                                                                                                                                                                                                                                                               K, Chalmers DT, Lowitz K, White C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example 1; Page 89-90; 187pp; English.
                                                                                  99US-0121852P
99US-0123944P
99US-0123944P
99US-0123948P
99US-0123951P
99US-0136437P
99US-0136437P
99US-0136437P
99US-0137127P
99US-0137127P
99US-0137127P
99US-0137127P
99US-015758P
99US-015184P
99US-015184P
99US-015184P
99US-015184P
99US-015184P
99US-015184P
99US-015184P
99US-0156534P
                                        98US-0108029P.
98US-0109213P.
98US-0110060P.
                                                                                                                                                                                                                                                                                                                                                                                                                Lehmann-Bruinsma K,
                                                                                                                                                                                                                                                                                                                         99US-0157282P.
                                                                         99US-0120416P
                                                                                                                                                                                                                                                                                                                                               99US-0157294P.
                                                                                                                                                                                                                                                                                                                                                           99US-00416760
                                                                                                                                                                                                                                                                                                                                                                    99US-00417044
                                                                                                                                                                                                                                                                                                                                                                                                                         Lin I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 68.1'
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                          (AREN-) ARENA PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                              2000-317986/27.
                                                                                                                                                                                                                                                                                                                                                                                                                         Liaw CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2000-317986/
N-PSDB; AAA46023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 390 AA;
           13-OCT-1999;
                                                                                                                                                                                                                                      27-AUG-1999;
03-SEP-1999;
29-SEP-1999;
                                                                                                                                                                                                                                                                                29-SEP-1999;
29-SEP-1999;
01-OCT-1999;
01-OCT-1999;
                                                                         16-FEB-1999
                                                                                                                                                 12-MAR-1999
28-MAY-1999
                                                                                                                                                                                                                           29-JUN-1999
                                                                                                                                                                                                                                                                      29-SEP-1999
                                                                                                                                                                                                                                                                                                                         01-OCT-1999,
01-OCT-1999,
                                                                                                                                                                                                                                                                                                                                                                                                                DP,
                                                                                                                                                                     28-MAY-19
28-MAY-19
28-MAY-19
28-MAY-19
28-MAY-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                         Gore M,
d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
```

```
The present amino acid sequence is the hRUP7, an endogenous human orphan G protein-coupled receptor (GPCR). The full length hRUP7 cDNA was cloned by FT-PCR using human peripheral leucocyte cDNA as template. The orphan GPCR of the invention, like all GPCRs has seven transmembrane alpha helices with an extracellular N-terminus and an intracellular C-terminus. However, no endogenous ligands has yet been identified for the proteins of their endogenous ligands, and to screen potential GPCR agonists and their endogenous ligands, and to screen potential GPCR agonists and antestudy of GPCR-mediated signalling cascades, and to elucidate their precise role in normal and diseased human conditions. Nucleic acid encoding human orphan GPCRs may be used for tissue localisation expression analysis to provide information about their function in expression analysis to provide information about their function in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G-protein coupled receptor; GPCR; PFI-013; antiallergic; antiasthmatic; antiinflammatory; vasotropic; antidiabetic; anorectic; cytostatic; human; osteopathic; neuroprotective; nootropic; dermatological; gynecological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MILLEFILPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179 SFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  239 SASTEVPASFHSERQRRKSSLMFSSRTKWNSNTIASKWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MSESNSTGILPPAAQVPLAFIMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
al human orphan G protein-coupled receptors and the encoding in the identification of G protein-coupled receptor agonists
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 3; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.9%; Score 1370.5; DB 3; 68.1%; Pred. No. 2.1e-133; ive 40; Mismatches 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PLCHKRFOKAFLKIFCIKKOPLPSOHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human GPCR-like polypeptide, PFI-013.
                                                                                                                                                                                                                          Claim 26; Page 60-61; 102pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB62445 standard; protein; 390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 transduction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EP1096009-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
       Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
       \mathbb{F} \, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \overset{\circ}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IN SON MARKED STANDER IN SON MARKET STANDER 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
This is a human G-protein coupled receptor (GPCR)-like polypeptide, PFI-013, encoded by cDNA of NCIMB 41073. The PFI-013 protein can be expressed by standard recombinant methodology. Antibodies and modulators of PFI-013 are useful in the manufacture of a medicament for treating allergic disorder, including extrinsic asthma, immunological disorders, such as intrinsic asthma, vasculitic granulomatous disease, interstitial and cherry disease, including chronic obstructive pulmonary disease cherry plant of the proposition of disease, sensory organ disorders, sleep disorders and hair loss. The PFI-013 protein and nucleic acid are useful in the diagnosis and treatment of diseases associated with signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358
                                                                                                                                                                                                                                                                                                                                    New G-protein coupled receptor-like polypeptide, polynucleotide for screening drug candidates for treating diseases associated with signal transduction e.g. allergic, inflammatory, pulmonary, neoplastic diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eosinophils from mammalian, especially human blood and for detecting the protein in biological samples
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MPDTNSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDKNLRHRSSYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 DELVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 SYRTQHTGVLKIVTLMVAVWVLAFLVNGPMILVSESWKDEGS--ECEPGFFSEWYILAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179 SFLEFVIPVILVAYFNAMIYWSLWKRDHLSRCOSHPGLTAVSSNICGHSFRGRLSSRRSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.9%; Score 1370.5; DB 4; Length 390; 68.1%; Pred. No. 2.1e-133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 transduction. The antibodies are also useful for enrichment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 22; Page 44; 66pp; English.
                                                                                                 29-OCT-1999; 99GB-00025641.
20-APR-2000; 2000GB-00009973.
                                                         24-OCT-2000; 2000EP-00309364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 267; Conservative
                                                                                                                                                                                                                                  O'reilly MA;
                                                                                                                                                                                                                                                                          WPI; 2001-309854/33.
N-PSDB; AAF83203.
                                                                                                                                                                  (PFIZ ) PFIZER LTD.
(PFIZ ) PFIZER INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 390 AA;
                   02-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                  Peter B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

Mon Oct

```
ς,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G protein-coupled receptor protein BG26, with activity of binding to histamine and capable of changing intracellular cAMP concentration in response to its stimulus, applicable as tool in screening ligands or drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence is that of the human G protein-coupled receptor protein BG26, which shows significant homology with histamine H3, with activity of binding to histamine and capable of changing intracellular CAMP concentration in response to its stimulus. The protein is applicable as a tool in screening ligands or drug candidates for regulating signal transduction from such protein and treating diseases associated with its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     238
                                                                                                                                                                                                    Human; G protein-coupled receptor protein BG26; histamine H3; histamine; altering intracellular cAMP concentration; regulating signal transduction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MSESNSTGILPPAAQVPLAFIMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRISN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.9%; Score 1370.5; DB 4 68.1%; Pred. No. 2.1e-133; iive 40; Mismatches 82;
              359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                            Human G protein-coupled receptor protein BG26.
361 PLCHRRFOKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                            Ohta M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 41-44; 50pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                            저,
                                                                                           AAG64477 standard; protein; 390
                                                                                                                                                                                                                                                                                                                                                                                                                            Tanaka
                                                                                                                                                                                                                                                                                                                                         20-DEC-2000; 2000WO-JP009038.
                                                                                                                                                                                                                                                                                                                                                                    99JP-00361687
                                                                                                                                                                                                                                                                                                                                                                                               (BANY ) BANYU PHARM CO LID
                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                          Itadani H, Nakamura T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-441675/47.
N-PSDB; AAH47911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 390 AA;
                                                                                                                                                                                                                                                                                    WO200146414-A1
                                                                                                                                                                                                                                                                                                                                                                    20-DEC-1999;
                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                               28-JUN-2001.
                                                                                                                                                  25-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           abnormality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      candidates.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                 9
                                                                              AAG64477
                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
239 SASTEVPASFHSERQRRKSSLMFSSRTKANSNTIASKNGSFSQSDSVALHQREHVELLRA 298
241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                   301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to the human G protein-coupled receptor AXOR35 (AAB73621), to cDNA encoding AXOR35 (AAB24006), and to AXOR35 fragments and variants. Like all G protein-coupled receptors, AXOR35 has 7 putative transmembrane domains and is involved in signal transduction. AXOR35 has homology and structural similarity with G protein-coupled receptors such as the human histamine H3 receptor. The invention also relates to as the human histamine AXOR35 comprising AXOR35 DNA, to recombinant expression of AXOR35, and to an AXOR35-specific antibody. AXOR35 proteins and nucleotides may be used to treat a wide variety of disorders including bacterial, fungal, protozoal and viral infections, particularly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   myocardial infarction; stroke; ulcer; migraine; vonting; psychotic disorder; neurological disorder; anxiety; schizophrenia; psychotic disorder; neurological disorder; anxiety; schizophrenia; manic depression; bipolar disorder; depression; delixium; dementia; severe mental retardation; dyskinesia; Parkinson's disease; Huntington's disease; Huntington's disease; Gilles de la Tourette's syndrome; lymphocyte; macrophage; eosinophil; neutrophil; function modulation; autoimmune disorder; pulmonary disorder; gene therapy; vaccine; drug screening; signal transduction; transgenic animal; drug discovery.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel G-protein coupled receptor polypeptide and polymucleotide for treating cancer, autoimmune, pulmonary, cardiovascular and neurological disorders and for identifying modulators useful for treating asthma.
                                                                                                                       299 RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLOWFNSFVNPLLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      histamine H3 receptor homologue; infection; viral; bacterial; fungal; protozoan; HTV-1; HTV-2; pain; cancer; diabetes; obesity; anorexia; bulimia; osteoporosis; asthma; allergy; urinary retention; acute heart failure; hypotension; hypertension; angina pectoris;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AXOR35; human; G protein-coupled receptor; 7TM receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Graybill TL,
                                                                                                                                                                           391
                                                                                                                                                                                                                 359 PLCHKRFOKAFLKIFCIKKOPLPSOHSRSVSS 390
                                                                                                                                                                        PLCHRRFOKAFWKILCVTKWPALSQ-NOSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human G protein-coupled receptor AXOR35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Aubart KM, Bergsma DJ, Fitzgerald LR, Michalovich D, Morrow DM, Zhu Y;
                                                                                                                                                                                                                                                                                                                               ż
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 50-51; 54pp; English.
                                                                                                                                                                                                                                                                                                                           AAB73622 standard; protein; 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SMIK ) SMITHKLINE BEECHAM CORP (SMIK ) SMITHKLINE BEECHAM PLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-OCT-2000; 2000WO-US029461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-FEB-2000; 2000US-00497790.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-00431898
                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-316464/33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAH24007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200133221-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                            10-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                      AAB73622;
                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                  RESULT 7
                                                                                                                                                                                                                                                                                                         AAB73622
                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                             원
                                                                                                                                                                      ð
```

Turnary recentor); actor near injuries injournation with the transfer of percoris; myocardial infarction; stroke; ulcers; magraine; vonting; psychotic and neurological disorders such as anxiety, schizophrenia, manic despression, delirium, dementia, and severe mental retardation, and dyskinesias, such as Parkinson's disease, Huntington's disease or Gilles de la Tourette's syndrome. AXOR35 proteins and molectides are useful as vaccines, and AXOR35 proteins, nucleotides and antibodies may be used in screening compounds for their ability to modulate AXOR35 activity or expression. Such AXOR35 modulators are modulate AXOR35 activity or expression. Such AXOR35 modulators are particularly useful for treating asthma, and inhibiting or promoting the function of lymphocytes, macrophages, essinophils or neutrophils in asthmatic lung. AXOR35 proteins, uncleotides and antibodies are also useful for inducing an inmunological response in a mammal against the abetection of multibody production. AXOR35 proteins are also useful for inducing an immunological response in a mammal against the above diseases, and for antibody production. AXOR35 mucleotides are also useful as diagnostic reagents, in chromosome localisation and tissue expression studies, and for producing transgenic animals useful in drug discovery. AXOR35-specific antibodies are useful for treating conditions associated with the expression of the AXOR35 protein. The present diabetes; obesity; anorexia; bulimia; osteoporosis; asthma; allergies; urinary retention; acute heart failure; hypotension; hypertension; angina or HIV-2 infections; pain; cancers; benign prostatic hypertrophy; \$

1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS MPDTNSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDKNLRHRSSYFFLNLAIS DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 3; Gaps DB 4; Length 390; Indels Query Match 66.9%; Score 1370.5; DB 4; Best Local Similarity 68.1%; Pred. No. 2.1e-133; Matches 267; Conservative 40; Mismatches 82; Sequence 390 AA; 61 121 61 121 g g à g à ð

120 120

2

9 9

RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRIERPKSVWYSIAFWLQWFNSFVNPFLY RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY 301 299

PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALROREYAELLRG 300

241

셤 à g ò d $\overset{\lambda}{\circ}$ 셤

ò

360

AAM53050 standard; protein; 390 AAM53050 RESULT 8 AAM53050 ZZXEXEXEX

¥

(first entry) 26-MAR-2002

Human G protein-coupled receptor nGPCR-2067.

Human; nGPCR-2067; G protein-coupled receptor; 7TM receptor; signal transduction; mental disorder; central nervous system disease;

metabolic disease; infection, HIV-1; HIV-2; pain, neurological disorder; psychotic disorder; Huntington's disease; schizophrenia; migraine; depression; anxiety; bipolar disorder; dementia; Alzheimer's disease; Parkinson's disease; proliferative disorder; cancer; psoriasis; benign prostatic hypertrophy; diabetes; dyslipidaemia; obesity; anorexia; polynucleotide, useful for identifying modulator compounds which are Library procedult in protection, and in procedular disease, hypotension, hypertension, thrombosis; myocardial infarction, cardiomyopathy, atherosclerosis; inflammatory conditions, autoimmune disorder; rheumatoid arthritis; hormonal disorder; renal failure, anti-HTV; analgesic, cytostatic; antidiabetic; metabolic; hypertensive; hypotensive; thrombolytic; cardiant; antiatherosclerotic; neuroleptic; antimigraine; antiparkinsonian; tranquiliser; antidepressant; neuroprocective; anticonvulsant; antiinflammatory; antitheumatic; antiatric; Transmembrane_domain_5 /label= Transmembrane domain 6 /label= Transmembrane_domain_7 /label= Transmembrane_domain_1 /label= Transmembrane_domain_2 Transmembrane_domain_3 Transmembrane domain 4 Wood LS; antipsoriatic; gene therapy; receptor. Location/Qualifiers Vogeli G, (PHAA) PHARMACIA & UPJOHN CO 08-MAY-2001; 2001WO-US014750. 08-MAY-2000; 2000US-0203108P 194 /label= Tr-305 .146 .360 .110 /label= /label= Sejlitz T, 2002-062240/08 N-PSDB; ABA02496. WO200185793-A2. Homo sapiens 15-NOV-2001 Lind P, Domain Domain Domain Domain Domain Domain Domain Key

encodes the novel G used for treating psoriasis, schizophrenia, diabetes, enco-protein-coupled receptor (nGPCR) polypeptide (nGPCR-2067).

Claim 31; Page 63; 100pp; English.

This sequence represents a novel human G protein-coupled receptor (GPCR) designated nGPCR-2067. Like all GPCRS, nGPCR-2067 has 7 putative cransmembrane domains and is involved in signal transduction. The invention also relates to expression vectors and host cells comprising nucleic acids encoding nGPCR-2067, to recombinant expression of nGPCR-2067, to antibodies specific for nGPCR-2067, to drug screening methods that use nGPCR-2067. And to modulators of nGPCR-2067 activity. nGPCR-2067 uncleic acid sequences may be used to isolate nGPCR-2067 activity. nGPCR-2067 and species homologues and may also be used in genetic mapping. The convention also discloses the use of nGPCR-2067 nucleic acids in screening crowattion also discloses the use of nGPCR-2067 nucleic acids in screening for a predisposition to nGPCR-2067-associated hereditary mental disorders, or for the diagnosis of these disorders. nGPCR-2067 nucleic acids in screening crockout animals, which may provide an insight into treating a variety of human disorders, and may also be used in the design of antisense conductions, particularly mental disorders, central nervous system conditions, particularly mental disorders, central nervous system

```
viral infections, particularly HIV-1 or HIV-2 infections; pain; central nervous system, neurological and psychotic disorders such as Huntington's disease, schizophrenia, migraine, depression, anxiety, bipolar disorder, dementia, Alaheimer's disease, and Parkinson's disease; proliferative disorders such as cancers, benign prostatic hypertrophy and psoriasis; metabolic disorders such as diabetes, dyslipidaemia, obesity, and anorexia; thyroid disorders; cardiovascular diseases such as hypotension, hypertension, thrombosis, mycoardial infarction, cardiomyopathies, and atherosclerosis; inflammatory conditions; autoimmune disorders (e.g., rheumatoid arthritis); hormonal disorders; and renal failure
                                                                                                                                                                                                                                                                                            2
                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                         61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYLLTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anti-asthmatic; anti-allergic; dermatological; cerebroprotective; stroke, anti-migraine; cardiant; anti-rheumatic; anti-arthritic; antipsoriatic; neuroprotective; inflammation; asthma; allergy; atopic dermathits; myocardial infarction; migraine; chronic obstructive pulmonary disease; rheumatoid arthritis; multiple sclerosis; inflammatory bowel disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                        1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                     61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       179 SFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                          3;
                                                                                                                                                                                                                                                 66.9%; Score 1370.5; DB 5; Length 390; 68.1%; Pred. No. 2.1e-133; ive 40; Mismatches 82; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human; histamine receptor; chromosome 18; anti-inflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLCHKRFQKAFLKIFCIKKOPLPSOHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human histamine receptor SP9144.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABP98629 standard; protein; 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-00414010.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-00414010.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                    Matches 267; Conservative
                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                              Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               psoriasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABP98629
     2222222222XX
                                                                                                                                                                                                                                                                                                                                                                                                                                 Ω
                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
```

```
240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                          This sequence represents the amino acid sequence of a human histamine receptor (HR) designated SP9144. The sequence was isolated by searching databases with the sequence of known G-coupled protein receptor (GCPR). The gene is used for recombinant production of HR and for preparing antibodies (Ab). These Ab are used to purify HR by immunoaffinity cloremostraphy, in immunoassay of histamine receptor, to identify cDNA clones that express the receptor, as antagonist to block binding of histamine (for treating any histamine-associated disorder) and to generate anti-idiotypic antibodies. Agonists and antagonists of the HR protein can be used in the treatment of e.g. inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infarction, migraine, chronic obstructive pulmonary disease, rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease and psoriasis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYRTQHTGVLKIVTLMVAVWVLAFLVNGPMILVSESWKDEGS--ECEPGFFSEWYLLAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWXILIII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 MLLEFILIPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179 SFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SASTEVPASFHSERQRRKSSLMFSSRTKANSNTIASKAGSFSQSDSVALHQREHVELLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                              for preparing antibodies, e.g. for treating-histamine related
                                                       SP.
                                                       Umland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 5; Length 390;
                                                                                                                                                          New nucleic acid encoding antigenic part of human histamine
                                                       Morse KL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            le-133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Amino acid sequence of human histamine receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                     Monsma FJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
66.9%; Score 1370.5;
Best Local Similarity 68.1%; Pred. No. 2.1e
Matches 267; Conservative 40; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 1; Col 27-30; 19pp; English.
                                                   Ę,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       standard; protein; 390
                                                     Laz
                                                  Hedrick JA,
              (SCHE ) SCHERING CORP
                                                                                                    WPI; 2002-442063/47.
                                                                                                                        N-PSDB; ABZ80663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-DEC-2002
                                                Behan JX,
                                                                                                                                                                                             disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABB78276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABB78276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB78276
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BXXXXXB
```

```
The present sequence represents a histamine receptor. The polypeptide is useful for identifying an agonist or antagonist of a mammalian histamine receptor. It is useful as an anticent to elicit the production of antibodies. The histamine receptor polypeptide and polynuclectide are useful in the treatment and management of diseases such as inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infection, arthritis, chronic obstructive pulmonary disease (COPD), rheumatioid arthritis, multiple solerosis, inflammatory bowel disease and psoriasis. They are also useful for modulating intracellular second messenger pathway activated through histamine receptors (cyclic-AMP, calcium, inositol phosphate and mitogen activated protein (MAP) kinase), changes in cellular growth rate, secretion of hormones, receptor-stimulated Ca2+mobilization, mitogenic effects, etc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel mammalian histamine receptor polypeptide useful for identifying agonist or antagonist for treating diseases such as inflammation, asthma, stroke, migraine, rheumatoid arthritis, multiple sclerosis, psoriasis.
         Human; histamine receptor; receptor; inflammation; asthma; allergy; atopic dermatitis; stroke; myocardial infection; migraine; chronic obstructive pulmonary disease; COPD); rheumatoid arthritis; multiple sclerosis; inflammatory bowel disease; psoriasis, inflammatory bowel disease; psoriasis, inflammatory bowel disease; psoriasis, intracellular second messenger pathway; cellular growth rate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Monsma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; Page 16-17; 21pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Laz TM,
                                                                                                                                                                                                                                                  19-MAR-2001; 2001US-00812216.
                                                                                                                                                                                                                                                                                     99US-00414010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sehan JX, Hedrick JA,
                                                                                                                                                                                                                                                                                                                     BEHAN J X.
HEDRICK J A.
LAZ T M.
                                                                                                                                                                                                                                                                                                                                                                       MONSMA F J.
MORSE K L.
UMLAND S P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-673827/72.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                        hormone secretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ABW78739.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 390 AA;
                                                                                                                                                                             JS2002098539-A1
                                                                                                                                                                                                                                                                                                                                                                                                                               WANG
                                                                                                                                                                                                                                                                                     07-OCT-1999;
                                                                                                                                             Homo sapiens
                                                                                                                                                                                                              25-JUL-2002.
                                                                                                                                                                                                                                                                                                                                                                         (MONS/)
(MORS/)
(UMLA/)
(WANG/)
                                                                                                                                                                                                                                                                                                                                     (HEDR/)
(LAZT/)
                                                                                                                                                                                                                                                                                                                      (BEHA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wang
g
```

Umland SP;

Morse KL,

FJ,

5, MILEFILIPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240 09 9 1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS DFLVGLISIPLY1PHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT Gaps ٠. ۳ Length 390; Indels 66.9%; Score 1370.5; DB 5; 68.1%; Pred. No. 2.1e-133; 82; 40; Mismatches 181 19 19 121

> à g ð Пp à

```
The present sequence is that of a human histamine receptor of the H4 subtype, as predicted from a cDNA clone isolated from a bone marrow cDNA clibrary. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AAA70980-83) and polypeptides (see AAM50564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 ceceptor activity. Recombinant protein is useful for identifying modulators of the human histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing asthma, allersy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New mammalian histamine H4 receptor proteins and polynucleotides encoding the proteins, useful in gene therapy for treating diseases where it is beneficial to elevate mammalian histamine H4 receptor activity.
241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAEILLRG 300
                     RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 receptor; human; antiasthmatic; antiallergenic; cory; cardiant; circulatory; antidiabetic; laxative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ۳
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.9%; Score 1370.5; DB 5, 68.1%; Pred. No. 2.1e-133; ive 40; Mismatches 82;
                                                                                                                                                           361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS
                                                                                                                                                                                                                                                                Ą
                                                                                                                                                                                                                                                                AAM50564 standard; protein; 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 13; Fig 2; 92pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                                                                    Human histamine H4 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 66.99
Best Local Similarity 68.13
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                      antiinflammatory; cardia
diagnosis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lovenberg T, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002-114339/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAI70980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200192485-A1.
                                                                                                                                                                                                                                                                                                                                                                                                      H4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                  18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                        Histamine
                                                                                                                                                                                                                                                                                                  AAM50564;
                                                                         301
                                                                                                                                                                                                                               RESULT 11
                                                                                                                                                                                                                                                 AAM50564
                                                                                                                                                                                                                                                                                  a
                                                                                                           셤
                                                                                                                                             à
                                                                                                                                                                          q
                                                                         ò
```

```
RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAU74906
    ò
                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                     ਨੇ
                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 XXXX
                                                                                            181 MILEFILPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                               360
                                 120
                                        SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTT 180
                                                                         241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                      239 SASTEVPASFHSERQRRKSSLMFSSRTKWNSNTIASRWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                              358
                 9
                                                                                                                                                                                                                                                                                                                 Histamine receptor; H4; antirheumatic; antiarthritic; immunosuppressive; antiasthmatic; antiallergic; neuroprotective; antidiabetic; human; cerebroprotective; cAMP modulator; gene therapy.
         301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                          299 RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY
MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                               DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                        359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                           PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                "transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                "transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                               'note= "transmembrane
142. .362
                                                                                                                                                                                                                                                                                                                                                                                                "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                               note= "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "transmembrane
                                                                                                                                                                                                                                                                                                Human histamine H4 receptor protein.
                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                  AAG66023 standard; protein; 390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (AMHP ) AMERICAN HOME PROD CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0202151P.
2000US-0227567P.
2000US-0247855P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-MAY-2001; 2001WO-US014527.
                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                       .154
                                                                                                                                                                                                                                                                                                                                                                                                                                       .196
                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 325
                                                                                                                                                                                                                                                                                                                                                                                                        .110
                                                                                                                                                                                                                                                                                                                                                                                       69.
                                                                                                                                                                                                                                                                                                                                                                                                        88. .11
/note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               note=
                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200185786-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            05-MAY-2000; 23-AUG-2000; 213-NOV-2000; 2
                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                  27-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-NOV-2001
                                                              121
                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                       Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                                                                                                                                                                                                          AAG66023
                               ò
                                           g
                                                             à
                                                                            g
                                                                                            à
                                                                                                         g
                                                                                                                                                                                                                                                          à
                                                                                                                                         g
                                                                                                                                                           à
                                                                                                                                                                         q
                                                                                                                                                                                          δ
```

```
The invention provides an isolated histamine receptor, H4, which binds ligands comprising imidazole attached to amine by an alkyl chain. The H4 receptor can be expressed by standard recombinant methodology. Cells expressing H4 receptor protein at a detectable level can suppress cyclic expressing H4 receptor protein at a detectable level can suppress cyclic adenosine monophosphate (CAMP) formation when contacted with the H4 receptor and antibodies are used for identifying H4 receptor modulators. Modulation of histamine H4 receptors is useful cutoimmune pathologies such as multiple sclerosis, type I diabetes, the undimute pathologies such as multiple sclerosis, type I diabetes, the numbroid arthritis, cognitive and memory defects. The h4 receptor protein and nucleic acids are useful targets to identify drugs that are protein and nucleic acids are useful targets to identify drugs that are cffective in treating disorders associated with histamine-regulated processes. Identification and isolation of H4 receptor provides for development of screening of molecules that interact with H4 receptors. CG development of screening of molecules that interact with H4 receptors. CG development of screening of molecules that interact with H4 receptors. CG development a disorder associated with the function of H4 in peripheral blood received with the function of H4 in peripheral blood received received with receptor provides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                    histamine receptor, termed H4 useful for detecting H4 (ant)agonists treating transplanted organ rejection, asthma, allergy, multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYRAQHTGIMKIVAQMVAVWILLAFLVNGPMILLASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239 SASTEVPASFHSERQRRKSSLMFSSRTKWNSNTIASKWGSFSQSDSVALHQREHVELLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RELAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.9%; Score 1370.5; DB 5 68.1%; Pred. No. 2.1e-133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40; Mismatches
   Pausch MH;
                                                                                                                                                                termed H4 useful
                                                                                                                                                                                                                              sclerosis and rheumatoid arthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard; protein; 390
ŝ
                                                                                                                                                                                                                                                                                        Claim 5; Fig 1; 66pp; English
Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-APR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 267; Conservative
Blatcher M,
                                                             2002-049442/06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               receptor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 390 AA;
Jones PG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU74906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAU74906;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
```

```
The present invention relates to a new G-protein coupled receptor (GPCR) colypeptide comprising greater than 70% amino acid sequence identity to polypeptide comprising greater than 70% amino acid sequence of human GPCRs TGRS2, TGR21, TGR130.2, thuman TGR213 or TGR22, 80% amino acid sequence identity to mouse TGR18 or 90% amino acid sequence identity to mouse TGR18 or cefined in the specification. The GPCR covalently linked to a solid phase is useful for identified compounds are useful for treating kidney disease, cerebral cavernous malformations, hyperlipidemia, obesity, dysbacxia and cardiac myxoma. The molecules of the invention are useful for diagnosing disorders or conditions such as kidney-related conditions or diseases continuary abnormalities, nephrotic syndrome, asymptomatic unitary abnormalities, rehal tubule defects, hypertension and curinary abnormalities, rehal tubule defects, hypertension and compliturations, functional disorders and jaundice and spleen-cassociated disorders and others. Modulation of the polypeptide of the invention is useful to treat or prevent any of the above conditions or diseases. TGR protein coupled receptors of the invention. This sequence represents the human GPCR TGR62 protein coupled receptors of the invention (AAU74904-AAU74911)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SYRAQHIGIMKIVAQMYAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
Amino acid sequence of human G-protein coupled receptor TGR62 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New G-protein coupled receptor polypeptides, useful for identifying modulators of signal transduction for treating kidney disease, hyperlipidemia, obesity, dyslexia and cardiac myxoma.
                                                                                               signal transduction modulator; cerebral cavernous malformation; hyperlipidemia; obesity; dyslexia; cardiac myxoma; renal failure; nephritis; hypertension; liver disease; cirrhosis; blood disorder; spleen-associated disorder; immune disorder.
                                                                    G-protein coupled; receptor; GPCR; TGR62; kidney disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 5; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Score 1370.5; DB 5;
; Pred. No. 2.1e-133;
40; Mismatches 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cutler G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 26; Page 61; 78pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66.9%;
68.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-JUN-2000; 2000US-0213461P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-JUN-2001; 2001WO-US020363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ь,
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      al Similarity 68.1
267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-147880/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TULA-) TULARIK INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Zhao J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; ABK12959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                          WO200200719-A2.
                                                                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                                                                                                                                                                                                           33-JAN-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lin DC,
                                                                          Human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                             Homo
```

2;

Gaps

9 09 180

g

à

g

ð

g 8

δ

```
The invention relates to an isolated G-protein coupled receptor polypeptide, AXOR35, (and its homologues and variants) and its encoding polynucleotide (and its homologues, variants, complements and RNA equivalents). Also included are an anti-AXOR35 antibody, an AXOR35 expression vector, producing a recombinant host cell by introducing the vector into a cell such that the host cell produces AXOR35, a membrane of the host cell expressing AXOR35, identifying/screening for agonists or
                                                                                                                                                                                                                                                                                                                                                                                                                                   Human, receptor; G-protein coupled receptor; AXOR35; lymphocyte; macrophage; eosinophil; neutrophil; infection; transplant rejection; gastrointestinal disorder; gastric ulcer; inflammatory bowel disease; crohn's disease; irritable bowel syndrome; vomiting; inflammation; atopic dermatitis; allergy, autcimmune disorder; theumatoid arthritis; psoriasis; urological disease; urinary retention; cardiovascular disease; myocardial infarction; hypotension; hypotension; pulmonary disorder; renal ischaemia; arteriosclerosis; atherosclerosis; psychosis; neurological disorder; migraine; anorexia; anxiety; schizophrenia; dyskinesia; parkinson's disease; cancer; obesity; stroke; septic shock; arefriverus boot disease; cancer; obesity; stroke; septic shock;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Novel isolated G-protein coupled receptor polypeptide, AXOR35, useful for treating infections, gastrointestinal disorders, autoimmune disorders, urological diseases, cardiovascular diseases and cancer.
                                                                                                                                                    358
RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                               PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                      299 RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGFKSVWYRIAFWLQWFNSFVNPLLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Graybill TL,
                                                                                                                                                                                       361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                          graft versus host disease; osteoporosis.
                                                                                                                                                                                                                                                                                                                                                                                                            Human G-protein coupled receptor AXOR35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fitzgerald L,
1, Zhu Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 22; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BEECHAM CORP
                                                                                                                                                                                                                                                                                                             ABG71960 standard; protein; 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-JUL-2001; 2001US-00910411.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-00431898.
2000US-00497790.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-FEB-2000; 2000US-00497790.
20-OCT-2000; 2000US-00693761.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bergsma DJ, Fi
D, Morrow DM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BEECHAM
                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-074982/07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SMIK ) SMITHKLINE (SMIK ) SMITHKLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; ABS57063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US2002137054-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                              28-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-SEP-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Michalovich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₹
                                                                                                                                                                                                                                                                                                                                               ABG71960;
                                                                                        239
                                                                                                                         301
                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Aubart
                                                                                                                                                                                                                                                                            RESULT 14
                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                       g
                                                                                                                                                                                          ₹
                                                    à
                                                                                    g
                                                                                                                         ð
```

```
Implications of the patient North State of the patient of the patient North State of the patient ANOR35 agonists or neutrophils. The agonist or antagonist in diseased tissue, by administering to the patient ANOR35 agonists or antagonists. The asonist or antagonist identified is useful for treating a disease such as the carbinat or inhibiting or promoting the function of lymphocytes. The asthmatic lung. ANOR35 or polymucleotide is useful in diagnostic assays, or identifying compounds that are agonists or antagonists of ANOR35, as vaccines, or for treating infections (bacterial, fungal, protozoan or viral infections), transplant rejection, gastrointestinal disorders (such as gastric ulacy, inflammatory bowel diseases (such as remains), urological diseases (such as urinary retention), andersis), urological diseases (such as urinary retention), hypotension, pulmonary diseases (such as recalial infarction), hypotension, pulmonary diseases (such as recal ischaemia), arteriosclerosis, atherosclerosis, psychotic and neurological diseases (such as recal ischaemia), arteriosclerosis, anorexia, anxiety, schizophrenial, dyskinesias (such as marteriosclerosis, anorexia, anxiety, stroke, septic shock, graft warmary and osteoporosis. The present sequence represents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNIKDGEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 MILEFILPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 DFFVGVISIPLYIPHTLEEWDFGKEICVFWLTTDYLLCTASVXNIVLISYDRYLSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MSESNSTGILPPRAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MPDTNSTINLSLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDKNLRHRSSYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
antagonists of AXOR35 and inhibiting or promoting the function of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.9%; Score 1370.5; DB 6; Length 390; 68.1%; Pred. No. 2.1e-133; ive 40; Mismatches 82; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \overset{\ }{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
```

Lin I;

Liaw CW,

Dang HT,

CHEN R. DANG H T. LIAW C W.

CHEN/) (LIAW/) DANG/

(FINI/) Chen R, WPI; 2003-428952/40.

N-PSDB; ACA93262.

99US-0120416P. 99US-0121842P. 99US-0123949P. 99US-0134948P. 99US-0134437P. 99US-0136437P. 99US-013657P. 99US-013557P.

12-MAR-1999; 12-MAR-1999; 28-MAY-1999; 28-MAY-1999;

20-NOV-1998; 16-FEB-1999; 26-FEB-1999;

28-MAY-1999; 28-MAY-1999; 28-MAY-1999; 28-MAY-1999;

36-JUN-2001; 2001US-00875076

US2003017528-A1

23-JAN-2003

99US-0141448P.

99US-0156555P. 99US-0156634P.

29-SEP-1999; 29-SEP-1999; 12-OCT-1999;

28-SEP-1999

RESULT 15 **ABU92265**

ABU92265 standard; protein; 390 AA

ABU92265;

Human G protein-coupled receptor hRUP7.

(first entry)

16-JUL-2003

Human; receptor; orphan G protein-coupled receptor; GPCR; haRE-3; haRE-4; haRE-5; hRUP3; hRUP6; hRUP7; hGPCRZ7; hARE-1; haRE-2; hPPR1; hG2A; hCHN3; hCHN4; hCHN6; hCHN8; hCHN9; hCHN10; hRUF4; signalling cascade.

Homo sapiens

```
The invention relates to a human G protein-coupled receptor (GPCR)
appearing as ABU92259-ABU92277 (encoded by CDNAs ACA93256-ACA93274) named
hARE-3. hARE-4. hARE-5. hRUP3, hRUP5, hRUP7, hGPCR27, hARE-1,
-2, hPPR1, hG2A, hCHN3, hCHN4, hCHN8, hCHN9, hCHN10 and hRUP4.

Also included are a plasmid comprising a vector and one of the cDNAs
above and a host call comprising the plasmid. The GPCRs are useful for
the direct identification of candidate compounds as inverse agonists,
caponists or partial agonists. In viro and in vivo systems incorporating
caponists or partial agonists. In viro and in vivo systems incorporating
creceptors play in the human condition, both normal and diseased, as well
as understanding the role of constitutive activation as it applies to
understanding the signalling cascade. The cDNAs are useful for making a
comprobe for dot-blot analysis against tissue mRNA and/or RT-PCR
identification of the expression of the receptor in tissue samples. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for
for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MSESNSTGILPPAAQVPLAFIMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel endogenous, orphan, human G protein-coupled receptors useful identification of modulators of the receptor and as research tools understanding the role of the receptor in human body.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.9%; Score 1370.5; DB 6; Length 390; 68.1%; Pred. No. 2.1e-133; ive 40; Mismatches 82; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 26; Page 23; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
```

```
        QY
        181 MILBELLEVISVAN'ENVOITWSLWKRALSRCPSHAGFSTTSSSASGHLHRAGVARTSN 240

        Db
        179 SFLEFVIPVILVAYFNNNIYWSLWRRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL 238

        QY
        241 PGLKESAAGRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300

        Db
        239 SASTEVPASFHSERQRRKSSIMPSSRTYMNSNITASKWGSFSQSDSVALHQREPVELLRA 298

        QY
        301 RKLARSLAILLSAFRICKAPSTRYMNSNITASKWGSFSQSDSVARHQREPVELNRA 298

        Db
        299 RKLARSLAILLGAFACWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY 358

        QY
        361 PLCHRRFQKAFWILCVTKWPALSQ-NQSVSS 391

        Db
        359 PLCHRRFQKAFWILCVTKWPALSQ-NQSVSS 390

        Db
        359 PLCHRRFQKAFKIFCIKKQPLPSQHSRSVS 390
```

Search completed: October 1, 2004, 10:11:32 Job time: 64 secs

us-10-626-445-8.rai

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

OM protein - protein search, using sw model

1, 2004, 10:10:33 ; Search time 18 Seconds
 (without alignments)
 1121.431 Million cell updates/sec October Run on:

US-10-626-445-8 2048

Title: Perfect score:

1 MSESNSTGILPPAAQVPLAF......WKILCVTKWPALSQNQSVSS 391 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

389414 segs, 51625971 residues Searched:

Total number of hits satisfying chosen parameters:

length: 0 length: 2000000000 sed Minimum DB Maximum DB

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Issued Patents AA:*

(cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
// cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
// cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
// cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
// cgn2_6/ptodata/2/iaa/PcTUS_COMB.pep:*
// cgn2_6/ptodata/2/iaa/PcTUS_COMB.pep:*
// cgn2_6/ptodata/2/iaa/PcTUS_COMB.pep:*
// cgn2_6/ptodata/2/iaa/PcTUS_COMB.pep:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	iland C appained	i c		Semience 2, Appri		7	7	٦.	N	Ŋ.	32		2	Sequence 11, Appl		7	. '	Sequence 9, Appli	6	14	6	. 6	21	2	, ,	2
SUMMARIES	ID	US-09-414-010-2	US-09-812-216-2	06	US-09-165-543-2	09-167-3	US-09-642-855-7	US-09-642-514-7	US-09-165-543-5	US-09-524-162-2	US-08-985-090-5	US-09-165-543-32	US-08-118-270-13	PCT-US93-08528-13	US-08-118-270-11	PCT-US93-08528-11	US-08-313-553-7	US-08-767-993-7	US-08-313-553-9	US-08-767-993-9	US-08-722-001-14	US-08-467-568-9	US-09-030-582-9	US-08-406-855A-21	US-09-206-899-21	US-08-444-734A-7	US-08-406-855A-22
	Length DB	390 3		445 2		445 3					362 2					Ŋ	٦	٣	٦	ო	П	7	7	7		515 1	
-%	Query	6.99	6.99	35.3	35.3	35.3	35.3	35.3	35.0	30.3	28.4	28.4	20.8	20.8	20.8	20.8	20.3	20.3	19.2	19.2	19.1	19.1	19.1	19.0	19.0	19.0	19.0
	Score	1370.5	1370.5	722.5	722.5	722.5	722.5	722.5	716.5	621.5	582.5	582.5	427	427	427	427	415.5	415.5	393	393	390.5	390.5	390.5	389.5	389.5	389.5	389.5
	Result No.	н	7	m	4	Ŋ	φ	7	80	σ	10	TT.	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Appli Appli		30, Appl	, Appli	Appli	Appli	Appli	Appli	Appli	Appli	Appli	Appl Appl	Appli	Appl.		α
Sequence 2			Sequence 2	Sequence 2	Sequence 2	Sequence 2	Sequence 2	Sequence 2	Sequence 2,	Sequence 9	Sequence 25	Sequence 5	Sequence 10	Seguence 20	
US-08-334-698-2 US-08-228-932-2	US-08-468-939-2	US-08-722-001-30	US-U8-4U6-855A-Z US-08-722-190-2	US-08-244-354-2	US-09-206-899-2	US-09-444-783-2	US-09-688-415-2	US-09-444-783-2	PCT-US95-04203-2	US-09-688-415-9	US-08-722-001-25	US-09-032-742-5	US-09-688-415-10	US-08-406-855A-20	US-09-206-899-20
44	Н	н с	4 (4	٣	m	4	4	4	ហ	4	г	m	4	7	м
572 572	572	572	572	572	572	572	572	572	572	515	515	515	515	559	559
19.0	19.0	0.61	19.0	19.0	19.0	19.0	19.0	19.0	19.0	18.9	18.9	18.8	18.8	18.8	18.8
388.5 388.5	388.5	388.5	388.5	388.5	388.5	388.5	388.5	388.5	388.5	387.5	386.5	S	385.5	385	385
28 29	30	31	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

```
APPLICANT: Behan, Jiang Xu
APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Haz, Thomas M.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Mnland, Shelby P.
APPLICANT: Wnland, Shelby P.
APPLICANT: Wnland, Shelby P.
TITLE OF INVENTION: Histamine receptor
FILE REFERENCE: CN01069
CURRENT APPLICATION UNDBER: US/09/414,010
CURRENT FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.1
                      Sequence 2, Application US/09414010
Patent No. 6204017
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Homo sapiens
US-09-414-010-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 390
TYPE: PRT
US-09-414-010-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 2
```

; Score 1370.5; DB 3; Length 390; ; Pred. No. 7.2e-106; 40; Mismatches 82; Indels 3; Query Match
Best Local Similarity 68.1%;
Matches 267; Conservative 40 Query Match Best Local Similarity

3; Gaps

180 120 61 DFFVGVISIPLYIPHTLEEWDFGKEICVFWLÄTDYLLCTASVYNIVLISYDRÆSVSNAV 120 181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240 09 09 1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS 61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWL/TDYLLCTASVYNIVLISYDRYQSVANAV 121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT ð Db ò qq à g Dp ò

> ò d à

RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFUNPFLY 360 301

```
CITY: Boston STATE: Massac
                                                                              USA
                                                                                          02109
                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
US-09-165-543-2
                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        du
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SFLEEVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 PGLKESAASRHSESPRRKSSILVSIRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
299 RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl
TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                              , Score 1370.5; DB 4; Length
; Pred. No. 7.2e-106;
40; Mismatches 82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                             359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                             PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                           APPLICANT: Laz, Thomas M.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Morse, Kelley L.
APPLICANT: Unland, Shelby P.
APPLICANT: Unland, Shelby P.
TITLE OF INVENTION: Histamine receptor
TITLE REFERENCE: CN01069
CURRENT APPLICATION NUMBER: US/09/812,216
CURRENT FILING DATE: 2001-03-19
PRIOR PILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/08985090
Patent No. 5885893
                                                                                                                            Sequence 2, Application US/09812216
Patent No. 6613533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 66.9%;
68.1%;
                                                                                                                                                                    APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Laz, Thomas M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              al Similarity
267; Conserva
                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-985-090-2
                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-812-216-2
                                                                                                                  US-09-812-216-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local 3
                               361
                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                       g
    g
                               ð
```

```
191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            214 VTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLH 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----AGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHSESPRRKSSILV 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 264 SIRTHMNSSITAFKVGSFWRSESAALRQR-----EYAELLRGRKLARSLAILLSAF 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  315 AICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVWPFLYPLCHRRFOKAFWKI 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              368 GLCWAPYTLLMIRAACHGHCVP-DYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKL 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----SLKRGSKPSASSASLEKRMKNVSQSFTQRFRLSRDRKVAKSLAVIVSIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -WSLWKRRALSRCPSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               274 RYGVGEAAVGAEAGEATLGGGGGG----GSVASPTSSSG----SSSRGTERPR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/985,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35.3%; Score 722.5; DB 2; 38.8%; Pred. No. 4e-52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      51; Mismatches 116;
                                         LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: MNI-032
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)742-4214
                                                                                                                                                                                                                                  PC-DOS/MS-DOS
                                                                                                                                                                                                        COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (617) 742-4214
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                        Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 38.8%
Matches 165; Conservative
                                         E: LAHIVE & COO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , MOLECULE TYPE: protein US-08-985-090-2
                                                                                                                                                                                                                                                                                                                FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                     CORRESPONDENCE ADDRESS:
                                                                                                      Massachusetts
                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         192 VAYFNVQIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LCPOK 431
```

96

215

m

```
Sequence 7, Application US/09642855
Patent No. 6413743
GENERAL INFORMATION:
APPLICANT: Lovenberg, Timchy
APPLICANT: Erlander, Mark
APPLICANT: Pyati, Jayashree
                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        192 VAYFNVQIY----
               427 LCPOK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    375 LCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LCPQK 431
                                                                   RESULT 5
US-09-167-354-7
                                                                                                                                                                                                                                                                                                                                               LENGTH: 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-642-855-7
                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  427
                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               137 VAVWILAFLVNGPMILASDSWK----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----WSLWKRRALSRCPSH 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | :||: ||
214 VTPFNLSIYLNIQRRTRILIDGAREAAGPEPPPEAQPSPPPPGCWGCWGKGKGKGAMPLH 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----AGFSTISSSASGHLHRAGVACRISNPGLKESAASRHSESPRRKSSILV 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        264 SLRTHMNSSITAFKVGSFWRSESAALRQR------EYAELLRGRKLARSLAILLSAF 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                315 AICWAPYCLFTIVLSTYPRIERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKI 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18 LAFLMSSFAFAIMVGNAVVILAFVVDRNIRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   274 RYGVGEAAVGAEAGEATLGGGGGG----GSVASPTSSSG----SSSRGTERPR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 35.3%; Score 722.5; DB 3; Length 445; Best Local Similarity 38.8%; Pred. No. 4e-52; Matches 165; Conservative 51; Mismatches 116; Indels 93
        Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
FEFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
                                                                                                             3: LAHIVE & COCKFIELD, LLP
28 State Street
                                                                                                                                                                                                                          MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
Sequence 2, Application US/09165543
Patent No. 6093545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 445 amino acids TYPE: amino acid
                                                                                                                                                             Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: protein
                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            192 VAYFNVQIY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         375 LCVTK 379
                                                                                                                                                                              USA
                                                                                                                                           CITY: Boston
STATE: Massac
                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                       02109
                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-165-543-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
```

```
156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               216 ------AGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHSESPRRKSSILV 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----SLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIF 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              315 AICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLYPLCHRRFQKAFWKI 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
Sequence 7, Application US/09167354A

Patent No. 6136559

GENERAL INFORMATION:
APPLICANT: LOvemberg, Timothy
APPLICANT: Brander, Mark
APPLICANT: Brander, Mark
APPLICANT: Brander, Mark
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
TITLE OF INVENTION: SUBTYPE
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/167,354A
CURRENT PILING DATE: 1998-10-07
NUMBER OF SEQ ID NOS: 8
CONTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214 VIFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       137 VAVWILAFLVNGPMILASDSWK----NSTNTKDCEPGFVTEWYLLITMLLEFLLPVIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 157 LLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----WSLWKRRALSRCPSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     264 SLRTHMNSSITAFKVGSFWRSESAALRQR-----EYABLLRGRKLARSLAILLSAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: Description of Artificial Sequence:PEPTIDE US-09-167-354-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
35.3%; Score 722.5; DB 3; Length 4
Best Local Similarity 38.8%; Pred. No. 4e-52;
Matches 165; Conservative 51; Mismatches 116; Indels
```

```
ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                          192
                                                                                                                                                                                                                                                                                                                                                                                                                                                          216
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                         음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                 ð
                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                          dd
                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         137 VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     157 ILVWVLAFILYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               264 SIRTHMINSSITAFKVGSFWRSESAALRQR-----EYAELLRGRKLARSLAILLSAF 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         315 AICWAPYCLFTIVLSTYPRIERPKSVWYSIAFWLOWFNSFVNPFLYPLCHRRFOKAFWKI 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  368 GLCWAPYTLIMITRACHGHCVP-DYWYETSFWILWANSAVNPVLYPLCHHSFRRAFTKL 426
                                                                                                                                                                                                                                                                                                                                                                                                                                             ----WSLWKRRALSRCPSH 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -AGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHSESPRRKSSILV 263
                                                                                                                                                                                                                                                                                                                                                                                                                            78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                            18 LAFLMSSFAFAIMVGNAVVILAFVVDRNIRHRSNYFFINLAISDFLVGLISIPLYIPHVL 77
                                                                                                                                                                                                                                                                                                                                                                                ) SANGEALD INFORMATION:
) AMPLICANT: Lovenberg, Timothy
) APPLICANT: Brlander, Mark
) APPLICANT: Brlander, Mark
) APPLICANT: Pyati, Jayashree

APPLICANT: Huvar, Arne
) TITLE OF INVENTION: SUBTYPE
) TITLE OF INVENTION: SUBTYPE
) TITLE OF INVENTION: SUBTYPE
) CURRENT APPLICATION NUMBER: US/09/642,514
) CURRENT FILING DATE: 2000-08-21
) RIOR APPLICATION NUMBER: US 09/167,354
) PRIOR FILING DATE: 1998-10-06
) NUMBER OF SEQ ID NOS: 8

SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  H3
                     H3
          APPLICANT: Huvar, Arne
IIILE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE
IIILE OF INVENTION: SUBTYPE
                                                                                                                                                                                                                                                                                                                               93;
                                                                                                                                                                                                                                                                                               DB 4; Length 445;
                                                                                                                                                                                                                                               OTHER INFORMATION: Description of Artificial Sequence: PEPTIDE
                                                                                                                                                                                                                                                                                               35.3%; Score 722.5; DB 4; Length 4 38.8%; Pred. No. 4e-52; tive 51; Mismatches 116; Indels
                                                     FILE REFERENCE: JWW
UNDERRY PELLING NUMBER: US/09/642,855
CURRENT FILING DATE: 2000-08-21
PRIOR APPLICATION NUMBER: 09/167,354
PRIOR FILING DATE: 1998-10-06
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PATENTIN VEY: 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Sequence 7, Application US/09642514; Patent No. 6437100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VAYFNVQIY------
                                                                                                                                                                                                                    ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         375 LCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       427 LCPQK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1
                                                                                                                                                                                                                                                                                                   Query Match
Best Local Simi
Matches 165;
                                                                                                                                                                                     LENGTH: 445
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-642-514-7
                                                                                                                                                                                                                                                                      US-09-642-855-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              216
                                                                                                                                                                      SEQ ID NO 7
                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \delta
                                                                                                                                                                                                                                                                                                                                                                   ŏ
```

```
10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   368 GLCWAPYTLIMITRAACHGHCVP-DYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKL 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          315 AICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLYPLCHRRFQKAFWKI 374
                                                                                                                                                                                                                                                                                                         78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                    97 TGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKM 156
                                                                                                                                                                                                                                                                                                                                                                                              137 VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITWLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                        157 LLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----WSLWKRRALSRCPSH 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264 SIRTHMNSSITAFKVGSFWRSESAALRQR------EYAELLRGRKLARSLAILLSAF 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----AGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHSESPRRKSSILV 263
                                                                                                                                                                                                                                             77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                          Gaps
                                                                                                                                                                          93;
                                                                                                                                   445;
TYPE: PRT CRANISM: Artificial Sequence ORGANISM: Artificial Sequence: PEPTIDE PETURE: INFORMATION: Description of Artificial Sequence: PEPTIDE US-09-642-514-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l and Sandra Glucksman
Receptors and Uses Therefor
                                                                                                                                   Length
                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                              Query Match 35.3%; Score 722.5; DB 4; Best Local Similarity 38.8%; Pred. No. 4e-52; Matches 165; Conservative 51; Mismatches 116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VAYFNVQIY-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 28 State Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-165-543-5
Sequence 5, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl an TITLE OF INVENTION: Muscarinic Recipies of SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
PAROR APPLICATION DATA:
APPLICATION NUMBER: 09/0-
FILLING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    375 LCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                427 LCPQK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
```

S

137

```
144 LVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTFFFLSV 200
                                                                                                                                                                        193 AYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHS 252
                                      138 AVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVISY 192
                                                                                                                                                                                                                    ----RIDGAREAAGPEPPEAQPSPP 239
                                                                                                                                                                                                                                                   253 ESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELL-RGRKLARSLAILL 311
                                                                                                                                                                                                                                                                                 312 SAFAICHAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLYPLCHRRFOKAF 371
                                                                                                                                                                                                                                                                                                                                                            271 SIFGLCWAPYTLIMIIRAACHGHCVP-DYWYETSFWILWANSAVNPVLYPLCHHSFRRAF 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65 GLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYR 123
                78 FNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQMV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5, Application US/08985090
Patent No. 5885893
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl
TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FO Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 28.4%; Score 582.5; DB 2; Best Local Similarity 37.7%; Pred. No. 1.3e-40; Matches 137; Conservative 45; Mismatches 118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MNI-032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: LAHIVE & COCKFIELD, STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET UNBER: MNJ
TELECOMMUNICATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'n
                                                                                                                                                                                                            201 TFFNLSIYLNIQRRTRL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                           372 WKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                         330 TKLLCPQK 337
                                                                                                                                                                                                                                                                                           240 PPP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-985-090-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S-060-586-80-SD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY:
                                              g
                                                                                           à
                                                                                                                             g
                                                                                                                                                                    ò
                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                          \delta
                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                                                                                                                                                                                                                 78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSYSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                        97 TGRWTFGRGLCKLMLVVDYLLCASSVFNIVLISYDRFLSVTRAVSYRAQGDTRRAVRKM 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ъ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            137 VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYLLTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 157 ALVWVLAFILYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---SRCPSHAGFSTTSSSASGH----LH 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---ESAASRHSESPRRKSSILVSLRTHM 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               270 NSSITAFKVGSFWRSESAALRQREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLS 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325 KPSASSASLEKRMKMVSQSITQR--FRLSRDKKVAKSLAIIVSIFGLCWAPYTLLMIIRA 382
                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                             || ||: | ::|||:||| | :||| | 37 LAALMALDIVATVEGNALVMLAFVADSSERTQNNFFLLNLAISDFLVGAFCIPLYVPYVL 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                    18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    || ||: ||:|||:|||| | 37 LAALMALLIVATVIGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVG------
                                                                                                                                                                                                                                                                                                                          63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            330 TYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     383 ACHGRCIP-DYWYETSFWLLMANSAVNPVLYPLCHYSFRRAFTKLLCPQK 431
                                                                                                                                                                                                                                                                         35.0%; Score 716.5; DB 3; Length 445; ilarity 40.2%; Pred. No. 1.3e-51; Conservative 54; Mismatches 128; Indels 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4; Length 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30.3%; Score 621.5; DB 4; Length
38.3%; Pred. No. 7.1e-44;
Live 44; Mismatches 110; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Ping Tsui
TITLE OF INVENTION: HUMAN HISTAMINE H3 GENE VARIANT-2
FILE REFERENCE: GP-70681
CURRENT APPLICATION NUMBER: US/09/524,162
CURRENT FILIG DATE: 2000-03-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FASTSEQ for Windows Version 3.0
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECHONE: (617)227-7400
TELEPHONE: (617)227-7400
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 445 amino acids
TYPE: amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           192 VAYFNVQIYWSLWKRRAL -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/09524162
Patent No. 6355452
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      231 RAGVACRTSNPGLK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 30.3
Best Local Similarity 38.3
Matches 141; Conservative
                                                                                                                                                                                                          MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: HOMO SAPIENS
US-09-524-162-2
                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 165; Conserv
                                                                                                                                                                                                      linear
                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                       US-09-165-543-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-524-162-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 2
LENGTH: 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

10;

```
257 RKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRGRKLARSLAILLSAFAI 316
                                                                                                                                                                                                                                                                                   317 CWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILC 376
                                                                                                                                                                                                                                                                                                                                                     287 CWAPYTLIMIRAACHGRCIB-DYWYETSFWLLWANSAVNPULYPLCHYSFRRAFTKLLC 345
                                                                                                                                                                                                                61 AQQGDTRRAVRKMALVWVLAFLLYGPAIL---SWEYLSGGSSIPBGHCYAEFFYNWYFLI 117
                                                                                                                                               118 SASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGREAGPEPPDAQPSPPPAPPSCWG 177
                                                                                                                                                                                            -----ESAASRHSESPR 256
                                                     124 AQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILT 178
                                                                                                                          --SRCPSHAGFSTIS 222
APPLICANT: Murphy, Randall B.
APPLICANT: Schuster, David I.
TITLE OF INVENTION: POLYPERTIDES OF G-COUPLED PROTEIN
TITLE OF INVENTION: PECEPTORS, AND COMPOSITIONS AND METHODS THEREOF
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/118,270
FILING DATE: 09-SEP-1993
PRICA APPLICATION DATA:
APPLICATION NUMBER: US 07/943,236
FILING DATE: 10-SEP-1992
ATTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: 419 Seventh Street, N.W., Suite 300
                                                                                                                                                                                                223 SSASGH----LHRAGVACRISNPGLK-----
                                                                                                                               179 ITMLLEFLLPVISVAYFNVQIYWSLWKRRAL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    34,033
FR: MURPHY=2A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 20004
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 13, Application US/08118270 Patent No. 5508384 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BROWDY AND NEIMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Townsend, Kevin G. RECISTRATION NUMBER: 34, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 348 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : 202-628-5197
202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: 248633
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 348 amino ació
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                 346 PQK 348
                                                                                                                                                                                                                                                                                                                                                                                                               377 VTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-118-270-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
US-08-118-270-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                qq
                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                          à
                                                                ð
                                                                                                 엄
                                                                                                                                     à
                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                           257 RKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRGRKLARSLAILLSAFAI 316
                                                                                                                                                                                                                                                                                                              CWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILC 376
                                                                                                                                                                                                                                                                                                                                   AQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYLLT 178
                                                     ------ESAASRHSESPR 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28.4%; Score 582.5; DB 3; Length 37.7%; Pred. No. 1.3e-40; Live 45; Mismatches 118; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                          179 ITMLLEFLLPVISVAYFNVQIYWSLWKRRAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
FLECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEPHONE: (617)742-4214
                                                                                                                                                                            223 SSASGH----LHRAGVACRTSNPGLK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 32, Application US/09165543
Patent No. 6093545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 32:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE: ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362 amino acids amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Massachusetts
: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 137; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                       377 VTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                           346 POK 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-165-543-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
US-09-165-543-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: BOS
STATE: MA
                                                                                                                                                                                                                                                                                                                       317
                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                       \delta
                                                                                                                                              g
                                                                                                                                                                                  ò
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                    δ
                                                                                                                 à
```

us-10-626-445-8.rai

```
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REGISTRATION NUMBER: 34,033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11:
                                                                                                  Query Match
Best Local Similarity 27.9%
Matches 109; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Townsend, Kevin G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 248633
INFORMATION FOR SEQ ID NO:
               ; MOLECULE TYPE: peptide PCT-US93-08528-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  das.
D.C.
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Was
STATE: D
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-118-270-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         231
                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dp
                                                                         12;
                                                                                                                                                                                                                                           76 VLF--NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GI 129
                                                                                                                                                                                                                                                                              130 MKIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLE 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --RALSRCPSHAGFSTTSSSASGHLH 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      291 OREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQW 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RAGVACRISNPGLKESAASRHSESPRRKSSILVSLRIHMNSSITAFKVGSFWRSESAALR 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                        | : : | : : : : | | | : | : : | : : | : | : | : | : | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : 
                                                                                                                     16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174 FYIPVSIMRILYCRIYRETEKRTKDLADLQGSDSVYKAEKRKPAHRA------LF
                                                                      86; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: New York University
TITLE OF INVENTION: POLYPEPTIDES OF G-COUPLED PROTEIN
TITLE OF INVENTION: RECEPTORS, AND COMPOSITIONS AND METHODS THEREOF
CORRESPONDENCE: 348
CORRESPONDENCE ADDRESS:
      Length 348;
20.8%; Score 427; DB 1; Length 34 27.9%; Pred. No. 9.1e-28; rive 76; Mismatches 119; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08528
FILING DATE: 09-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/943,236
FILING DATE: 10-SEP-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEE: BROWDY AND NEIMARK: 419 Seventh Street, N.W., Suite 300 Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351 FNSFVNPFLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303 INSTVNPICYALCNRTFRKTFIMLLC--RW 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             223 RSCLRCPRPTKGLNPNPS--HQMTKRKRMS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MURPHY=2 PCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 13, Application PC/TUS9308528 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             185 FLLPVISVAYFNVQIYWSLWKR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Townsend, Kevin G.
REGISTRATION NUMBER: 34,033
REPERENCE/DOCKET NUMBER: MOT
TELECOMMUNICATION
TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 248633
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 348 amino acids
                            Best Local Similarity 27.9
Matches 109; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
TOPOLOGY: lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
STREET: 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US93-08528-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Was
STATE: D
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX:
      Query Match
                                                                                                                                                                            쉼
                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
```

```
76 VLF--NWNFGSGICMFWLIIDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GI 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   130 MKIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYLLTITMLLE 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -RALSRCPSHAGFSTTSSSASGHLH 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RAGVACRISNPGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALR 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              291 OREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQW 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----LVKERKAAQTLSAILLAFIITWTPYNIMVLV-STFCDKCVPVTLWH-LGYWLCY 302
                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                  16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                | : : | : : : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | : | | : | : | | : | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 11, Application US/08118270
Patent No. 5508384
GENERAL INFORMATION:
APPLICANT: Schuster, David I.
TITLE OF INVENTION: POLYPEPTIDES OF G-COUPLED PROTEIN
TITLE OF INVENTION: RECEPTORS, AND COMPOSITIONS AND METHODS THEREOF CORRESPONDENCE ADDRESS:
ADDRESSEE: BROWDY AND NEIMARK
                                                                                                                                 96;
Length 348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            174 FYIPVSIMRILYCRİYRETEKRİKDLADLOGSDSVYKAEKRKPAHRA--
                                                                                                                    76; Mismatches 119; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/118,270
FILING DATE: 09-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/943,236
FILING DATE: 10-SEP-1992
ATTORNEY/AGENT INFORMATION:
20.8%; Score 427; DB 5; 27.9%; Pred. No. 9.1e-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303 INSTVNPICYALCNRTFRKTFIMLLC--RW 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             351 FNSFVNPFLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: BROWDY AND NEIWARK
STREET: 419 Seventh Street, N.W., Suite
CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         223 RSCLRCPRPTKGLNPNPS--HOMTKRKRMS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: MURPHY=2A
TELECOMUNICATION INFORMATION:
TELEPHONE: 202-628-197
TELEPHOX: 202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FLLPVISVAYFNVQIYWSLWKR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PC-DOS/MS-DOS
```

```
TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Search
Job tim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οp
                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                    D
                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    244 KESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRGRKL 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLC 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 133 VAOMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYILTITMLLEFLL 187
                                                                                                                                                                                                                                                                                                                                                                                 -----LQASGTEAETENFVHPTGS 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----LVKEKKA 253
                                                                                                                                                                                                                                                                                         FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI 132
                                                                                                                                                                                                                                                                                                            PVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN----PGL 243
                                                                                                                                                                                                                18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                       3 IAFLIGILALVTIIGNILVIVSFKVNKQLKTVNNYFLLSLACADLIIGVISMNLFTTYII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: New York University
TITLE OF INVENTION: POLYPEPTIDES OF G-COUPLED PROTEIN
TITLE OF INVENTION: RECEPTORS, AND COMPOSITIONS AND METHODS THEREOF
                                                                                                                                                                                  Gaps
                                                                                                                                                                                 64;
                                                                                                                                           Length 355;
                                                                                                                                           20.8%; Score 427; DB 1; Length 35:
29.6%; Pred. No. 9.3e-28;
tive 75; Mismatches 123; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: PR PC compatible
COMPUTER: PR PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OFFICE PATENTING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 348
CORRESPONDENCE SADRESS.
STREET: BROWDY AND NEIMARK
STREET: Washington
CITY: Washington
CITY: User Washington
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SRSCSSYELQQQKR----FALKT--RSQITKRKL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Townsend, Kevin G.
REGISTRATION NUMBER: 34,033
REFERENCE/DOCKET NUMBER: MURPHY=2 PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-628-5197
                                                                                                                                                                                                                                                                                                                                                                                                                                                             UMBER: PCT/US93/08528
09-SEP-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 09-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/943,236
FILING DATE: 10-SEP-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 11, Application PC/TUS9308528
; GENERAL INFORMATION:
                      LENGTH: 355 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                 Query Match
Best Local Similarity 29.6'
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              :: |: | :|
313 NKTFRTTFKTLL 324
       SEQUENCE CHARACTERISTICS
                                                                            TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-118-270-11
                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D.C.
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCT-US93-08528-11
                                                                                                                                                                                                                                                                                                                                                                                                                                        188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  304
                                                                                                                                                                                                                                                                                               78
                                                                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 15
```

g ð

유 à ΩD δ

d

ઠ Ωp ò

a à

à

```
13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             133 VAQMVAVWILLAFLVNOPMILASDSWKNSTNTKDCEPG----FVTEWYILTITMLLEFLL 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----LQASGTEAETENFVHPTGS 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244 KESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRGRKL 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              304 ARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLYPLC 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ::|::|:| | | ::|| | | : | | | : | | | : | | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | : | | : | : | | : | : | | : | : | | : | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----LVKEKKA 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 IAFLIGILALVITIGNILVIVSFKVNKQLKTVNNYFLLSLACADLIIGVISMNLFTTYII 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  188 PVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN----PGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
20.8%; Score 427; DB 5; Length 35
Best Local Similarity 29.6%; Pred. No. 9.3e-28;
Matches 110; Conservative 75; Mismatches 123; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 219 SRSCSSYELQQQKR----FALKT--RSQITKRKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               175 PVTIMRI----LYWRIYKETE-KRTKELAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              completed: October 1, 2004, 10:13:27
He : 20 secs
                                                                                                                       ::
                                                                                                                                                                                                                                              355 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            364 HRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    :: |: | :|
313 NKTFRTTFKTLL 324
                                                              TELEX: 248633
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
202-737-3528
                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: Si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT-US93-08528-11
                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78
```

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

OM protein - protein search, using sw model

Run on: October 1, 2004, 10:11:54 ; Search time 134 Seconds (without alignments)
938.981 Million cell updates/sec

350.301 MILLIO 2: US-10-626-445-8

Perfect score: 2048
Sequence: 1 MSESNSTGILPPAAQVPLAF......WKILCVTKWPALSQNQSVSS 391

Scoring table: BLOSUM62 Gapop 10.0, Gapext 0.5

Searched: 1351062 segs, 321799191 residues

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Published Applications AA:*

| cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
| cgn2_6/ptodata/2/pubpaa/PCT_NEW PUB.pep:*
| cgn2_6/ptodata/2/pubpaa/US06_NEW PUB.pep:*
| cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
| cgn2_6/ptodata/2/pubpaa/US07_NEW PUB.pep:*
| cgn2_6/ptodata/2/pubpaa/US07_NEW PUB.pep:*
| cgn2_6/ptodata/2/pubpaa/US08_NEW PUB.pep:*
| cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

No. Score Match Length DB ID

1370.5 66.9 390 10 US-09-910-411-2
2 1370.5 66.9 390 10 US-09-910-411-2
2 1370.5 66.9 390 10 US-09-985-165-2
3 1370.5 66.9 390 12 US-10-349-253A-2
5 1370.5 66.9 390 12 US-10-349-253A-2
5 1370.5 66.9 390 12 US-10-349-253A-2
7 1370.5 66.9 390 12 US-10-35-25-14
8 1370.5 66.9 390 12 US-10-52-14
9 1370.5 66.9 390 14 US-10-22-567A-629
9 1370.5 66.9 390 14 US-10-22-567A-629
11 1370.5 66.9 390 14 US-10-354-769-2
11 1370.5 66.9 390 14 US-10-354-769-2
11 1370.5 66.9 390 14 US-10-354-769-2
12 1370.5 66.9 390 16 US-10-354-769-2
13 1370.5 66.9 390 16 US-10-354-769-2
14 1370.5 66.9 390 16 US-10-39-807-14
15 1370.5 66.9 390 16 US-10-354-769-2
16 US-10-723-955-14 Sequence 14, Appli
17 US-10-723-955-14 Sequence 14, Appli
18 1370.5 66.9 390 16 US-10-723-955-14
18 1370.5 66.9 390 16 US-10-723-955-14
18 1370.5 66.9 390 16 US-10-723-955-14
18 1370.5 66.9 390 16 US-10-723-955-14
18 1370.5 66.9 390 16 US-10-723-955-14
18 1370.5 66.9 390 16 US-10-723-955-14

	Semions	e due lue S	Semience 2,	Constanting	zednemce z	Seguence 2, Appli	educine	Seduence	eduence	Sednence	d3	Sequence 5, Appli		Semience 5. Appli	Semi-pro-S	Semionce 5 June 1				a) Ì	Sequence 32, Appl	• •		Sequence	8 Sequence 188, App	Sequence 10. April	Semience 22 Appl	Semi-property Semi-	Segmence 6. Appli	Sequence 93. April	Tride (co companion
	US-10-290-078-27										CS-10-453-106-2	US-09-350-206-5	US-09-349-755-5	US-09-166-334-5	US-09-891-053-25	US-10-282-958-5	US-10-453-106-3	115-09-891-053-1	TG_10_200_02	116-06-250-350-3	110-00-330-240-32	116-00-14-00-15	110 10 000 010 011		US-10-225-567A-188	US-10-029-009-10	US-10-029-009-22	US-09-782-980-82	US-09-884-430-6	0-423-543	700
	14						1 2			4 -	9 0	ע	σ	6	12	14	16	1.2	1 (10	٥	١ ٥	, .	1	14	13	13	σ		12	,
390	390	445	445	445	445	445	445	445	453	7 4 7	7 .	445	445	445	445	445	445	413	441	362	מאר כאר	200	100	705	460	478	498	460	460	460	7.00
6.99	66.7	35.3	35.3	35.3	35.3	35.3	35.3	3.7	3.0	, r	10	33.0	35.0	35.0	35.0	35.0	35.0	34.6	28.9	28.5	28.	28.6		7.00	20.7	20.2	20.5	20.0	20.0	20.0	000
1370.5	1366.5	722.5	722.5	722.5	722.5	722.5	722.5	722.5	722 5	718.5	716	770.0	716.5	716.5	716.5	716.5	716.5	709.5	591	582.5	582.5	782		0.4.0	413	413	413	410	410	410	410
16	17	18	19	20	21	22	23	24	25	26	10	7 (87	29	30	31	32	33	34	35	36	37	α	0 0	, ,	4 4	41	42	43	44	45

ALIGNMENTS

SEQUENCE 2, Application US/09910411

| Sequence 2, Application US/09910411
| Sequence 2, Application US/09910411
| GENERAL INFORMATION:
| APPLICANT: Bergsma, Derk |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| APPLICANT: Li, Xiatong |
| FILE REFERENCE: GP70655-2C1 |
| CURRENT FILING: ADTE: 2001-07-20 |
| PRIOR FILING DATE: 2000-10-20 |
| PRIOR FILING DATE: 2000-10-20 |
| PRIOR PELICATION NUMBER: 09/497, 790 |
| PRIOR FILING DATE: 1999-11-02 |
| SEQ ID NOS: 2 |
| SEQ ID NOS: 2 |
| LENGTH: 390 |
| TYPE: RRT |
| CRGANISM: Homo sapien |
| US-09-910-411-2

Ouery Match 66.9%; Score 1370.5; DB 9; Length 390;
Best Local Similarity 68.1%; Pred. No. 3.2e-119;
Matches 267; Conservative 40; Mismatches 82; Indels 3; Gaps 2

Oy I MSESNSTGLIPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS 60

g

q ò q δ g

D $\stackrel{>}{\circ}$

g ð

Š

```
361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/10349253A publication No. US20040043393A1 GENERAL INFORMATION:
APPLICANT: AADALT, AADALT, Kelly APPLICANT: Bergsma, Derk APPLICANT: Fitzgerald, Laura
                                                                                                                          Sequence 6, Application US/09891138A, Publication No. US20030083245A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   66.9%;
68.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 68.1%
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 26
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 6
LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
US-10-349-253A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-891-138A-6
                                                                                                              US-09-891-138A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₹
               ð
                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYLLTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                    RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                      181 MILBFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                       241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                        SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DFLVGLISIPLY1PHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 DFFVGVISIPLYIPHTLEEWDFGKEICVFWLTTDYLLCTASVXNIVLLSYDRYLSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lind, Peter
APPLICANT: Sejlitz, Torsten
APPLICANT: Sejlitz, Torsten
APPLICANT: Vogeli, Gabriel
APPLICANT: Wogeli, Gabriel
APPLICANT: Wood, Linda S.
TITLE OF INVENTION: No. US20030032784Alel G Protein-Coupled Receptors
FILE REPERENCE: 00231regUS
CURRENT APPLICATION NUMBER: US/09/852,165
CURRENT FILING DATE: 2001-05-08
PRIOR APPLICATION NUMBER: USSN 60/203,108
PRIOR APPLICATION NUMBER: USSN 60/203,108
NUMBER OF SEQ ID NOS: 3
SOFTWARE: PetentIn Version 3.0
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 10; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66.9%; Score 1370.5; DB 10; Lengt
68.1%; Pred. No. 3.2e-119;
ive 40; Mismatches 82; Indels
                                                                                                                                                                                                                                                                                                                           PLCHRRFOKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/09852165
Publication No. US20030032784A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 267; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-852-165-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                               359
                                                                           121
                                                                                                                                                                                                             239
          19
                                                                                                                                                                                                                                              301
```

g

 δ

g

à

임 δ 염 à q δ qq

à

```
301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALROREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVXNIVLISYDRYLSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GPCR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: human TGR62 G-protein coupled receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82; Indels
                                                                                                                                                                                         APPLICANT: Chen, Jinagang
APPLICANT: Chen, Jin-Long
APPLICANT: Chen, Jin-Long
APPLICANT: Tullarik Inc.
TTTLE OF INVENTION: No. US20030083245Alel Receptore
TTTLE OF INVENTION: No. US20030083245Alel Receptore
TTLE REFERENCE: 018781-006210US
CURRENT APPLICATION NUMBER: US/09/891,138A
CURRENT FILING DATE: 2001-06-25
PRIOR PILING DATE: 2000-06-23
PRIOR FILING DATE: 2000-06-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Score 1370.5; DB 10; Pred. No. 3.2e-119; 40; Mismatches 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
359 PLCHKRFOKAFLKIFCIKKOPLPSOHSRSVSS 390
```

2

9

```
US-09-875-076-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 DFFVGVISIPLYIPHTLFEWDFGKBICVFWLTDYLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 MLLEFLLEVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRISN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 239 SASTEVPASFHSERQRRKSSLMFSSRTKONSNTIASKWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299 RRIAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 66.9%; Score 1370.5; DB 12; Length 390; Best Local Similarity 68.1%; Pred. No. 3.2e-119; Matches 267; Conservative 40; Mismatches 82; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14, Application US/09875076
Publication No. US20030017528A1
GENERAL INFORMATION:
APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
TAPLICANT: Liaw, Chen W.
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
TILLE REFERENCE: AREN0050
CURRENT PAPLICATION NUMBER: US/09/875,076
CURRENT FILING DATE: 2001-06-06
PRIOR APPLICATION NUMBER: 09/417,044
PRIOR FILING DATE: 1999-10-12
                                            APPLICANT: MILIMALOWIUM, DAVIU
APPLICANT: MILIMALOWIUM, DAVIU
APPLICANT: Zhu, Yuan
ITITLE OF INVENTION: AXCR35, A G-Protein Coupled Receptor
FILE REPERENCE: G707665-2C2
CURRENT APPLICATION NUMBER: US/10/349,253A
CURRENT APPLICATION NUMBER: 09/910,411
PRIOR APPLICATION NUMBER: 09/910,411
PRIOR PILING DATE: 2001-07-20
PRIOR APPLICATION NUMBER: 09/497,790
PRIOR FILING DATE: 2000-02-03
PRIOR FILING DATE: 2000-02-03
PRIOR FILING DATE: 1999-11-02
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FASESEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLCHRRFOKAFWKILCVTKWPALSQ-NOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Li, Xiatong
Michalovich, David
Graybill, Todd
                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-349-253A-2
                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 390
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-875-076-14
                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 MILEFILEVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTISSSASGHLHRAGVACRISN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239 SASTEVPASFHSERÇRRKSSLMFSSRTKMNSNTIASRWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MSBSNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 12; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    66.9%; Score 1370.5; DB 12; Lengt 68.1%; Pred. No. 3.2e-119; Ative 40; Mismatches 82; Indels
                                                   FRICK PILING DATE: 1999-02-26

PRIOR PILING DATE: 1999-03-12

PRIOR PILING DATE: 1999-03-28

PRIOR PILING DATE: 1999-05-28

PRIOR PILING DATE: 1999-05-29

PRIOR PELING DATE: 1999-05-29

PRIOR PELING DATE: 1999-05-29

PRIOR PELING DATE: 1999-09-29

PRIOR PELING DATE: 1999-00-19

PRIOR PELING DATE: 1999-00-19

PRIOR PELING DATE: 1999-00-19

PRIOR PELING DATE: 1999-10-01

PRIOR FILING DATE: 1999-10-01
R FILING DATE: 1999-02-16
R APPLICATION NUMBER: 60/121,851
R FILING DATE: 1999-02-26
R APPLICATION NUMBER: 60/123,946
R FILING DATE: 1999-03-12
R APPLICATION NUMBER: 60/123,949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
```

g

g ð

```
181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 DELUGLISIELYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-052-193-2
US-10-052-193-2
US-10-052-193-2
US-10-052-193-2
US-10-052-193-2
US-10-052-193-2
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-3
US-10-052-193-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Pred. No. 3.2e-119; 40; Mismatches 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 PLCHRRFOKAFWKILCVTKWPALSQ-NOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.9%; Score 1370.5; 68.1%; Pred. No. 3.2e
                   PRIOR FILING DATE: 1999-09-29
PRIOR APPLICATION NUMBER: 60/157,280
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR APPLICATION NUMBER: 60/157,281
PRIOR PRIOR PRISE DATE: 1999-10-01
PRIOR PILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-09-29
NUMBER OF SEQ ID NOS: 146
SOFTWARRE: PATENTIN VERSION 3.0
APPLICATION NUMBER: 60/156,653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 68.1%
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 2
LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-052-193-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-876-252-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                        US-09-F052-1-4 plication Up/0997622

SEMENAL INFORMATION: PROFILED TO SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTIAL PROPERTY OF SEMENTY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
      359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                            361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1999-09-29
APPLICATION NUMBER: 60/156,634
FILING DATE: 1999-09-29
                                                                                                                                                                                                                                                                                  RESULT 6
US-09-876-252-14
```

```
241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                   RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                            DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYLLTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS 60
                                                                                                                               239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or PALM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Chen, Rupping
APPLICANT: Dang, Huong T.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Lia, I-Lin, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 14; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Remaining Prior Application data removed - See File Wrapper NUMBER OF SEQ ID NOS: 74 SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Score 1370.5; DB 14; Lengt
; Pred. No. 3.2e-119;
40; Mismatches 82; Indels
                                                                                                                                                                                                                                                                                                     PLCHRRFQKAFWKILCVTKWPALSQ-NOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 14, Application US/10272983
Publication No. US20030148450A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66.9%;
68.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 68.1%
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-272-983-14
                                                                                                                                                                                                                                299
                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                    à
                                                                                                                             g
                                                                                                                                                                               ð
                                                                                                                                                                                                                 д
                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 629, Application US/10225567A

Sequence 629, Application US/10225567A

GENERAL INFORMATION:

APPLICANT: LifeSpan Biosciences
APPLICANT: Brown, Joseph P.
APPLICANT: Brown, Joseph P.
APPLICANT: Brown, Christine L.
TITLE OF INVENTION: ANTIGENIC PEPTIDES AND ANTIBODIES FOR G PROTEIN-COUPLED RECEPTORS
CURRENT APPLICATION NUMBER: US/10/225,567A

CURRENT FILING DATE: 2000-12-19

PRIOR FILING DATE: 2000-12-19

NUMBER OF SEQ ID NOS: 2292

SOFTWARE PATENTIAN VESION 3.1
                                                                                                                                                                                                                                                                                                                                                                         181 MILEFILPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                       DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                               121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                   241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 DFFVGVISIPLYIPHILFEWDFGKEICVFWLTIDYLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                           1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                          RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                            .
.
            DB 13; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.9%; Score 1370.5; DB 14; Length 390; 68.1%; Pred. No. 3.2e-119; ive 40; Mismatches 82; Indels 3;
                                                         Indels
66.9%; Score 1370.5; DB 13
llarity 68.1%; Pred. No. 3.2e-119;
Conservative 40; Mismatches 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   al Similarity
267; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Homo
US-10-225-567A-629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -10-225-567A-629
                                                267;
Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 629
                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                               셤
                                                                                                                                                                                  à
                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

 δ g

q ò g

 δ dd

```
239 SASTEVPASFHSERQRRKSSLMFSSRTKWANSNTIASKWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYARLLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTBWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | POTINSTINISESTRVITAFFMSLVAFAIMEGNALVILAFVVDKNLRHRSSYFFINLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 74 SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 14; Length 390;
                                                                                                                                                                                                                                             APPLICANT: Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
TITLE OP INVENTION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: ARENOSOS
CURRENT FILING DATE: 1999-10-12
PRIOR APPLICATION NUMBER: US/09/417,044
PRIOR APPLICATION NUMBER: 60/109,213
PRIOR APPLICATION NUMBER: 60/109,213
PRIOR PILING DATE: 1998-11-20
PRIOR PILING DATE: 1998-11-20
PRIOR PILING DATE: 1999-02-16
PRIOR PILING DATE: 1999-02-26
PRIOR APPLICATION NUMBER: 60/123,946
PRIOR APPLICATION NUMBER: 60/123,946
PRIOR PILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66.9%; Score 1370.5; DB 14; Lengt
68.1%; Pred. No. 3.2e-119;
tive 40; Mismatches 82; Indels
                       359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS
                                                                                                                                                        Sequence 14, Application US/10393807; Publication No. US20030175891A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 68.1;
Matches 267; Conservative
                                                                                                                                                                                                                   APPLICANT: Chen, Ruoping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-393-807-14
    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΩD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                        g
         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RKLARSLALLLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 MILEFILPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239 SASTEVPASFHSERQRRKSSLMFSSRTKWNSNTIASKWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DFLVGLISIPLXIPHVLFNWNFGSGICMFWLITDXLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                      SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                         RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                   1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
         MILIBFILLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                 241 PGLKESAASRHSESPRRKSSILVSLRTHWNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ٠.
س
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 14; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              66.9%; Score 1370.5; DB 14; Lengt
68.1%; Pred. No. 3.2e-119;
.ive 40; Mismatches 82; Indels
                                                                                                                                                                                                                                                                                                                     PLCHRRPOKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/10354769

Publication No. US20030149242A1

GENERAL INRORMATION:

APPLICANT: Pfizer Inc.

APPLICANT: O'Reilly, Mark A.

APPLICANT: O'Reilly, Mark A.

APPLICANT: Peter, Beate

TILLE OF INVENTION: NOVEL POLYPEPTIDE

FILE REFERENCE: PC10373B

CURRENT APPLICATION NUMBER: US/10/354,769

CURRENT APPLICATION NUMBER: US 09/698,801

PRIOR PILING DATE: 2000-10-27

PRIOR FILING DATE: 2000-10-27

PRIOR FILING DATE: 2000-06-14

PRIOR PILING DATE: 1999-10-29

PRIOR FILING DATE: 1999-10-29

PRIOR FILING DATE: 1999-10-29

PRIOR FILING DATE: 1999-10-29

PRIOR FILING DATE: 1909-10-29

PRIOR FILING DATE: 1000-04-20

NUMBER OF SEQ ID NOS: 10

SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Homo sapiens
US-10-354-769-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local
Matches 26
```

9

d

g ò

염 ð g

ð

Д à

ò

ð g

```
APPLICANT: Pharmacia & Upjohn Company
APPLICANT: Lind, Peter
APPLICANT: Lind, Peter
APPLICANT: Sejlitz, Torsen
APPLICANT: Sejlitz, Torsen
APPLICANT: Wodeli, Gabriel
APPLICANT: Wodeli, Gabriel
APPLICANT: Wodeli, Gabriel
APPLICANT: Wodeli, Linda &
TITLE OF INVENTION: POLYNUCLEOTIDES ENCODING G PROTEIN-COUPLED RECEPTORS
FILE REFERENCE: PHRNODS-101/00231REGUS.1 DV1
CURRENT PILING DATE: 2003-10-28
PRIOR APPLICATION NUMBER: US 60/203,108
PRIOR APPLICATION NUMBER: US 60/203,108
PRIOR FILING DATE: 2001-05-08
PRIOR FILING DATE: 2001-05-08
NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin version 3.2
SEQ ID NO 2

LENGTH: 390
                  239 SASTEVPASFHSERQRRKSSLMFSSRTKONNSNTIASKONGSFSQSDSVALHQREHVELLIRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 PGLKESAASRHSESPRRKSSILVSLRTHWNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 16; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66.9%; Score 1370.5; DB 1668.1%; Pred. No. 3.2e-119; Live 40; Mismatches 82;
                                                                                                                                                                                                                                    359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 PLCHRRFOKAFWKILCVTKWPALSQ-NOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS
                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/10696673
Publication No. US20040105846A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 68.19
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                               RESULT 13
US-10-696-673-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-696-673-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
US-10-723-955-14
                                                                                                301 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359
                                                                                                                                           엄
                                                                                                                                                                                                 à
                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDXLLCTASVYNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 MILEFILPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: LOWIEZ, Kevin
APPLICANT: Calmers, Derek T.
APPLICANT: Calmers, Derek T.
TITLE OF INVENTION: Constitutively Activated Human G Protein Coupled
TITLE OF INVENTION: Receptors
FILE REFERENCE: 7.0528.CON
CURRENT PELING DATE: 2003-0416,760
PRIOR PAPLICATION NUMBER: 09/416,760
PRIOR APPLICATION NUMBER: 09/100,496
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR APPLICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR APPLICATION NUMBER: 60/123,948
PRIOR PRIOR APPLICATION NUMBER: 60/123,948
PRIOR PRIOR APPLICATION NUMBER: 60/123,948
PRIOR PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR APPLICATION NUMBER: 60/123,948
PRIOR PRIOR PRIOR DATE: 1999-03-12
PRIOR SEQ ID NOS: 155
SCOFTWARE: PALENT NOWIBER: 60/123,951
PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVANAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 15; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 66.9%; Score 1370.5; DB 15; Lengt. Best Local Similarity 68.1%; Pred. No. 3.2e-119; Matches 267; Conservative 40; Mismatches 82; Indels
                                                                                                           359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                             361 PLCHRRFQKAFWKILCVTKWPALSQ-NQSVSS 391
                                                                                                                                                                                                                                                         Sequence 14, Application US/10417820A
Publication No. US20030229216A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                       APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
APPLICANT: Lowitz, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-417-820A-14
                             299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
```

g

ð

q ð qq ò g

ð

```
299 RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Job time : 136 secs
                                                                                                                                                                                                              RESULT 15
US-10-737-619-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ПÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    П
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                      à
                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYLLTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 PGLKESAASPHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALROREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SASTEVPASFHSERQRRKSSLMFSSRTKANNSNTIASKMGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVXNIVLISYDRYLSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 DPLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 179 SFLEFVIPVILVAYFNMNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL
                                                                                                                                                                                                                                                                 APPLICANT: LOWICE, NEWLIN F.
APPLICANT: LOWICE, NEWLIN F.
APPLICANT: Chen, Ruoping
APPLICANT: Gore, Martin
APPLICANT: Gore, Martin
APPLICANT: White, Carol
TITLE OF INVENTION: Constitutively Activated Human G Protein Coupled
TITLE OF INVENTION: Receptors
FILE REPERENCE: 7.029.COM
CURRENT APPLICATION NUMBER: US/10/723,955
CURRENT APPLICATION NUMBER: 10/417,820
PRIOR APPLICATION NUMBER: 09/116,760
PRIOR FILING DATE: 1999-10-12
PRIOR FILING DATE: 1999-10-13
PRIOR FILING DATE: 1999-110-13
PRIOR FILING DATE: 1999-10-26
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-02-26
PRIOR FILING DATE: 1999-02-26
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PELICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR PELICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR PELICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR PELICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR PELICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
PRIOR PELICATION NUMBER: 60/123,948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 16; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
66.9%; Score 1370.5; DB 16; Lengt
Best Local Similarity 68.1%; Pred. No. 3.2e-119;
Matches 267; Conservative 40; Mismatches 82; Indels
                         Application US/10723955
To. US20040110238A1
                                                                                                                                                                                                                            Lehman-Bruinsma, Karin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn version 3.2
                                                                                                              APPLICANT: Behan, Dominic P.
APPLICANT: Chalmers, Derek T.
Lin, I.-Lin
APPLICANT: Lin, Chen W.
                                                                                                                                                                                                                                                Lowitz, Kevin P.
Dang, Huong T.
Chen, Ruoping
Gore, Martin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens
US-10-723-955-14
                                    Sequence 14, Applica
Publication No. US20
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                      APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
```

```
179 SFLEFVIPVILVAYFNRNIYWSLWKRDHLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSL 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 MILEFILIPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKWGSFSQSDSVALHQRELVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MSBSNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82; Indels
                                                                                                                                Sequence 2, Application US/10737619;
Publication No. US20040138234A1
GENERAL INFORMATION:
APPLICANT: Pfizer, Inc.
TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS
FILE REFERENCE: PC10963A
CURRENT FILIG DATE: 2003-12-16
PRIOR APPLICATION NUMBER: 0101223.6
PRIOR FILING DATE: 2001-01-17
NUMBER OF SEQ ID NOS: 10
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Pred. No. 3.2e-119; 40; Mismatches 82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 PLCHRRFOKAFWKILCVTKWPALSQ-NOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66.9%; Score 1370.5; 68.1%; Pred. No. 3.2e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359 PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS
361 PLCHRRFOKAFWKILCVTKWPALSQ-NOSVSS
                         359 PLCHKRFÇKAFLKIFCIKKQPLPSQHSRSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Search completed: October 1, 2004, 10:22:50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 68.1%
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-737-619-2
```

GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd. Copyright

using sw model OM protein - protein search,

1, 2004, 10:07:13 October Run on:

; Search time 18 Seconds (without alignments) 2089.494 Million cell updates/sec

US-10-626-445-8 2048 Perfect score:

.........WKILCVTKWPALSQNQSVSS 1 MSESNSTGILPPAAQVPLAF. Sequence:

BLOSUM62 Scoring table:

Gapop 10.0 , Gapext 0.5

283366 seqs, 96191526 residues Searched:

Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 B B Minimum Maximum

Post-processing:

Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR 78:* 1: pir1:* 2: pir2:* 3: pir3:* 4: pir4:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

muscarinic acetylc muscarinic recepto muscarinic acetylc muscarinic acetylc muscarinic acetylc muscarinic acetylc histamine H4 recep muscarinic acetylc muscarinic acetylc muscarinic acetylc muscarinic acetylc muscarinic acetylc muscarinic acetylc muscarinic acetylc alpha-1A adrenergi muscarinic acetylc D3 dopamine recept dopamine recept dopamine recept alpha-1-adrenergic histamine H1 recep histamine H1 recep muscarinic acetylc muscarinic acetylc alpha-1A-adrenergi alpha-1B adrenergi alpha-1A adrenergi alpha-1A-adrenergi histamine H1 Description d3, SUMMARIES I51837 S47572 A29476 S10128 B29514 A55019 JT0531 S01114 S71323 A35546 JH0447 G01977 I39369 JC2495 IS6507 A31897 A40491 S10127 DB Query Match Length 400 18.8 18.8 18.7 18.7 18.6 Score 410.5 410.5 410.5 410 409.5 402.5 1370.5 3399.5 3392.5 3392.5 3390.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 3490.5 34 400

aluba 2-adreant	היוסיים היהיואה מותיבה	muscarinic aceryic	muscarinic aceryte	muscarinic acecyic	histamine ul reas	serotonin recept	miscanin receiptor	miscarinic acetyle	miscarinic acetylo	serotonin recentor	miscarinic acetta	G profein-counted	alpha-1-adronoman	serotonia roccutor	serotonin receptor
150829	440972	JH0197	S10856	JC1525	JC1415	JC6178	C29514	833776	A27386	A47321	S48657	S58868	A35375	A47385	S26048
		_													
7	7	N	N	0	N	7	N	0	7	7	~	(1	~	~	71
432 2	466 2	466 2	466 2	515 2	486 2	379 2	478 2	479 2	466 2	366 2	484 2	484 2	466 2	366 2	366 2
18.6 432 2					18.5 486 2									, ,	17.6 366 2
		18.5	18.5	18.5				18.3	18.0					, ,	.,

ALIGNMENTS

Cispeciae: Homo sapiens (man)
Cispeciae: Homo sapiens (man)
Cispeciae: Homo sapiens (man)
Cipate: 30-Jun-2001 #sequence_revision 30-Jun-2001 #text_change 30-Jun-2001
Cipate: 30-Jun-2001 #sequence_revision 30-Jun-2001
Cipate: 30-Jun-2001 #sequence_revision 30-Jun-2001
Cipates Commun. 279, 615-620, 2000
Airtle: Molecular cloning and characterization of a new human histamine receptor, HH4R.
Airtle: Molecular cloning and characterization of a new human histamine receptor, HH4R.
Airtle: Molecular cloning and characterization of a new human histamine receptor, HH4R.
Airtle: Molecular cloning and characterization of a new human histamine receptor, HH4R.
Airtle: Molecular cloning and characterization of a new human histamine receptor, HH4R.
Airtle: Molecular cloning and characterization of a new human histamine receptor, belonging to the biogenic amine receptors of G protein-coupled - human JC7566 histamine H4 receptor, HH4R

A;Gene: hh4r C;Keywords: G protein-coupled receptor; transmembrane protein

Gaps 3; DB 2; Length 390; Indels 82; 66.9%; Score 1370.5; DB 2 68.1%; Pred. No. 4.3e-110; tive 40; Mismatches 82; Best_Local Similarity bs.r. Matches 267; Conservative Query Match Best Local Similarity

1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS

ò

5

9

120 09 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 61 Ωp ò

120 180 61 DFFVGVISIPLYIPHTLFEWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAV SYRAQHTGIMKIVAQMYAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 121 qq ò

240 181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN ð g

121

g

178

238

241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALROREYAELLRG 300 239 SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKWGSFSQSDSVALHQREHVELLRA 298 g à

RELAKSLAILLGUFAVCWAPYSLFIIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLY 358 RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 299 301 qq à

PLCHRRFOKAFWKILCVTKWPALSQ-NQSVSS 391 361 359 à a

hypothetical prote

```
muscarinic acetylcholine receptor M5 - ra
C;Species: Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          259 SSILVSL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
                                                                                                                                                                                                                                                    A; Accession: S06327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Accession: S04326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JT0531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                  A Accession: A24125
A, Accession: A24125
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Molecule type: mRNA
A, Cross-references: GB:X04413; NID:91863; PIDN:CAA28003.1; PID:91866
A, Cross-references: GB:X04413; NID:91863; PIDN:CAA28003.1; PID:91866
C; Superfamily: vertebrate rhodopain
C; Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phospho
F; 25.07/Domain: transmembrane #status predicted <TM2>
F; 10.0-121/Domain: transmembrane #status predicted <TM3>
F; 142-168/Domain: transmembrane #status predicted <TM4>
F; 187-209/Domain: transmembrane #status predicted <TM5>
F; 187-209/Domain: transmembrane #status predicted <TM5>
F; 187-200/Domain: transmembrane #status predicted <TM7>
F; 187-200/Domain: transmembrane #status predicted <TM7>
F; 187-200/Domain: transmembrane #status predicted <TM7>
F; 187-200/Domain: transmembrane #status predicted <TM5>
F; 187-200/Domain: transmembrane #statu
RESULT 2

A24325

muscarinic acetylcholine receptor - pig

muscarinic acetylcholine receptor - pig

muscarinic acetylcholine receptor - pig

C;Species: Sus scrofa domestica (domestic pig)

C;Date: 29-Aug-1987 #sequence_revision 29-Aug-1987 #text_change 05-Nov-1999

C;Accession: A24325

Rikubo, T:; Fukuda, K.; Mikami, A.; Maeda, A.; Takahashi, H.; Mishina, M.; Haga, T.; Hag

Rikubo, T.; Pukuda, S.; Mikami, A.; Maeda, A.; Takahashi, H.; Mishina, M.; Haga, T.; Hag

A;Title: Cloning, sequencing and expression of complementary DNA encoding the muscarinic

A;Reference number: A24325; MUID:87014801; PMID:3762692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ζq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     muscarinic acetylcholine receptor M1 - human
C;Species: Homo sapiens (man)
C;Date: 31-Dec-1990 #sequence revision 31-Dec-1990 #text_change 21-Jul-2000
C;Date: 31-Dec-1990 #sequence xevision 31-Dec-1990 #text_change 21-Jul-2000
C;Accession: S09508; S06327; S04326
R;Chapman, C.G.; Browne, M.J.
Nucleic Acids Res. 18, 2191, 1990
A;Title: Isolation of the human m1 (Hm1) muscarinic acetylcholine receptor gene B,Recreace number: S09508; MUID:90245684; PMID:2336407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         358 VKEKKAARILISAILLAFIVTWIPYNIMVLV-STFCKDCVPETLW-ELGYWLCYVNSTINP 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         243 RSQPGAEGSPETPPĠRCCR---CĊRAPRLLQAYSWKEEEEEDEĠSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----RIHMNSSITAFKVGSFWRSESAA------LRQREYAEL 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 298 SEVVIKMPMVDPEAQAPAKQPPRSSPNTVKRPTRKGRËRAGKGQKPRGKEQLAKRKTFSL 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298 IRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNP 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FLVGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187 IITFGTAMAAFYLEVTVMC----TLYWRIYRETENRARELAALQGSETPGKGGGSSSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YILTITMELEFEL PVI SVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5 NSTGILPPAAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    154; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20.2%; Score 413; DB 2; 27.5%; Pred. No. 9.7e-28; iive 83; Mismatches 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AS------GHLHRAGVACRT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358 FLYPLCHRRFOKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSILVSL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ਨੇ
```

```
A; Molecule type: DNA
A; Residues: 1-460 cALL.
A; Residues: 1-460 cALL.
A; Cross-references: GB:Y00508; GB:M35128; NID:g297405; PIDN:CAA68560.1; PID:g297406
A; Cross-references: GB:Y00508; GB:M35128; NID:g297405; PIDN:CAA68560.1; PID:g297406
R; Peralta, E.G.; Ashkenazi, A.; Winslow, J.W.; Smith, D.H.; Ramachandran, J.; Capon, D.J
R; Peralta, E.G.; Ashkenazi, A.; Winslow, J.W.; Smith, D.H.; Ramachandran, J.; Capon, D.J
A; Title: Distinct primary structures, ligand-binding properties and tissue-specific expre
A; Reference number: S04326; MUID:88166632; PMID:3443095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       neurotransmitter receptor; phosphor
                                               A; Residues: 1.460 CCHA>
A; Residues: 1.460 CCHA>
A; Richaes: EMBL:X52068; NID:g34450; PIDN:CAA36291.1; PID:g34451
A; Rose-references: EMBL:X52068; NID:g34450; PIDN:CAA36291.1; PID:g34451
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1990
B; Allard, W.J.; Sigal, I.S.; Dixon, R.A.F.
Nucleic Acids Res. 15, 10604, 1987
A; Title: Sequence of the gene encoding the human MI muscarinic acetylcholine receptor.
A; Reference number: S06327; MUID:88096607; PMID:3697105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           243 RŚQPGAEGSPETPPĠRCCR---CĊRAPRLLQAYSWKEEEEEDEĠSMEŚLTŚSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FLVGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---SRCPSHAGFSTTSSS 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298 SEVVIKMPMVDPEAQAPTKOPPRSSPNTVKRPTKKG---RDRAGKGOKPRGKEQLAKRKT 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               295 AELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LIIGTFSMNLYTTYLLMGHWALGTLACDLWLALDYVASNASVMNLLLISFDRYFSVTRPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --ALROREY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5 NSTGILPPAAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Residues: 1-172,'M',174-460 <PER>
A;Residues: EMBL:X15263; NID:g32317; PIDN:CAA33334.1; PID:g32318
C;Superfamily: vertebrate rhodopsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;100-12]/Domain: transmembrane #status predicted <TM3>
F;142-168/Domain: transmembrane #status predicted <TM4>
F;142-168/Domain: transmembrane #status predicted <TM5>
F;367-387/Domain: transmembrane #status predicted <TM5>
F;367-387/Domain: transmembrane #status predicted <TM6>
F;402-420/Domain: transmembrane #status predicted <TM7>
F;212/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 460;
nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --RTHMNSSITAFKVGSFWRSESA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YILTITMLLEFLLPVISVAYFNVQIYWSLWKR-----RAL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Keywords: G protein-coupled receptor; glycoprotein; P;25-50/Domain: transmembrane #status predicted <TM1>P;62-93/Domain: transmembrane #status predicted <TM2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
20.2%; Score 413; DB 2; L
Best Local Similarity 27.4%; Pred. No. 9.7e-28;
Matches 122; Conservative 84; Mismatches 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --GHLHRAGVACRT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VNPFLYPLCHRRFOKAFWKILCVTKW 380
```

```
NSFVNPFLYPLCHRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          536 NSTVNPVCYALCNKTFRTTFKMLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSFWRS-----ESAA----
                                                                                        RFQKAFWKILCVTKW 380
                                                                                                                                                    500 TFRKTF-KLLLLCRW 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255 ---PRRKSSILVSLRTHMN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 246 SAASR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 125;
                                                                                        366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             352
                                                                                    8
                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                   A. A. A. Coccession: JT0531
A. Molecule type: DNA
A. A. Molecule type: DNA
A. Molecule type: DNA
A. Molecule type: DNA
A. Molecule type: DNA
A. Molecule type: DNA
B. Liao, C.F.; Themmen, A.P.N.; Joho, R.; Barberis, C.; Birnbaumer, M.; Birnbaumer, L.
J. Biol. Chem. 264, 7328-7337, 1989
A. Title: Molecular cloning and expression of a fifth muscarinic acetylcholine receptor.
J. Richeston: A3354
A. Molecule type: DNA
A. Reference number: A3354
A. Molecule type: DNA
A. References: GB: M22955; MID: 9205311; PIDN: AAA41572.1; PID: 9205312; GB: J04706
A. Note: the nucleotide sequence for residues 101-120 and the translation 121-140 are not A. Note: the authors translated the codon CAG for residue 19 as Glu, AAC for residue 65
A. Note: the authors translated the codon CAG for residue 19 as Glu, AAC for residue 65
A. Note: the authors translated the codon CAG for residue 19 as Glu, AAC for residue 65
A. Note: the authors translated the codon CAG for residue 10 as Glu, AAC for residue 65
A. Note: the authors translated the codon CAG for residue 19 as Glu, AAC for residue 65
A. Note: the authors translated the codon CAG for residue 19 as Glu, AAC for residue 65
A. Note: the muscarinic acetylcholine receptors. Peptide sequencing identifies residues invo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A. Mortele include: A. Mortele included in the following included in the following it. A. Mortele included in the following it. A. Mortele included in the following it. A. Mortele include in the following it. A. Mortele include include in the following include include include include include include include include include include included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included included inc
                                                                                           Neuron 1, 403-410, 1988
A:Title: Cloning and expression of the human and rat m5 muscarinic acetylcholine receptor
A:Reference number: JT0530; MUID:90166521; PMID:3272174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          76 VLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIM 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 322 MVYKSBAKESPGKESNTQETKETVVNIRTENSDYDTPKYFLSPAAAHRLKSGKCVAYKFR 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----QREYAELLRGRKLAR 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   382 LVVKADGTQETNNGCRKVKIMPCSFPVSKDPSTKGPDPNLSHQMTKRKRMVLVKERKAAQ 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVMYSIAFWLQWFNSFVNPFLYPLCHR 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YIPVSVMTILYCRIYRETEKRTKDLADLQGSDSVAEAKKREPAQRTLLRSFFSCPRPSLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        150 IGLA-----WLVSFILWAPALLC---WQYLVGKRTVPPDECQIQFLSEPTITFGTALAAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----RALSRCP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---ASRHSESPRRKSSILVSLRTHMNSSI--TAFKVGSFWRSESAALR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2; Length 531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --- GVACRISNPGLKESA
                           C, Accession: JT0531, A33354; C37121
R; Bonner, T.1.; Young, A.C.; Brann, M.R.; Buckley, N.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
20.0%; Score 410.5; DB 2;
Best Local Similarity 24.6%; Pred. No. 1.9e-27;
Matches 122; Conservative 92; Mismatches 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----SHAGFSTT--SSSASGHLHRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           186 LLPVISVAYFNVQIYWSLWKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Op
```

```
Nuclearing acetylcholine receptor M2, glandular - pig
NyAlternate names: muscarinic acetylcholine receptor III
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change 18-Feb-2000
C;Accession: S0114
FBBS Lett. 235, 257-261, 1988
A,Title: Primary structure of porcine muscarinic acetylcholine receptor III and antagonis A;Accession: S01114
A;Molecule type: DNA
A;Accession: S01114
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Residues: 1-590 <ARI>
A;Residues: 1-590 <ARI>
A;Cross-references: EMBL:X12712; NID:g1861; PIDN:CAA31215.1; PID:g1862
C;Superfamily: vertebrate rhodopsin
C;Superfamily: vertebrate rhodopsin
C;Reywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; transmembrane #status predicted <TW1>
F;08-91/Domain: transmembrane #status predicted <TW3>
F;143-104/Domain: transmembrane #status predicted <TW3>
F;148-207/Domain: transmembrane #status predicted <TM4>
F;231-252/Domain: transmembrane #status predicted <TM6>
F;331-252/Domain: transmembrane #status predicted <TM6>
F;528-546/Domain: transmembrane #status predicted <TM6>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16;
442 TLSAILLAFIITWTPYNIMVLV-STFCDKCVPVTLWH-LGYWLCYVNSTINPICYALCNR 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     358 GSETRAIYSIVLKUPGHSTILNSTKLPSSDNLQVPEEELGTVDLERKAŠKLQAQKSMDDG 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GŚPOKSFSKLPIOLEŚAVDTAKASDVNSSVGKTTATLPLSFKEATLAKRFALKTRSQITK 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWF 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----LRQ 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFINLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       133 VAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYLLITMLLEFLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LA-----WVISFILWAPALL---FWQYFVGKRTVPPGECFIQFLSEPTITFGTAIAAFYM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PVISVAYFNVQIYWSLWKRRALSRCPSHAGF--STTSSSASGHLHRAGVACRTSNPGLKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             243 PVIIMII----LYWRIYKETE-KRIKELAGLQASGTEAAENFVHPTGSSRSCSSYELQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      298 QSLKRSARRKYGRCHFWFTTKSWKPSAEQMDQDHSSSDSWNNNDAAASLENSASSDEEDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels 161;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20.0%; Score 410.5; DB 2; Length 590; 24.8%; Pred. No. 2.1e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches 136;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---HSES--
```

```
Rilai, J.; Smith, T.L.; Mei, L.; Ikeda, M.; Fujiwara, Y.; Gomez, J.; Halonen, M.; Roeske, Adv. Exp. Med. Biol. 287, 313-330, 1991
A;Title: The molecular properties of the MI muscarinic receptor and its regulation of cyt A;Reference number: I51837; MUID:92101806; PMID:1759615
A;Accession: I51837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Namescarinic acetylcholine receptor m3 - bovine

Wiscarinic acetylcholine receptor m3 - bovine

C;Species: Bos primigenius taurus (cattle)

C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #text_change 18-Feb-2000

C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #text_change 18-Feb-2000

C;Accession: 87572

B;Lee, P.H.K.; Hodges, P.K.; Glickman, F.; Chang, K.J.

B;Lee, P.H.K.; Hodges, P.K.; Glickman, F.; Chang, K.J.

B;Lee, P.H.K.; Hodges, P.K.; Glickman, F.; Chang, K.J.

B;Cee, P.H.K.; Hodges, P.K.; Glickman, F.; Chang, K.J.

B;Cee, P.H.K.; Hodges, P.K.; Glickman, F.; Chang, K.J.

B;Ceession: 847572

A;Cecssion: 847572

A;Cecssion: 847572

A;Cecssion: A;Cession: A;Cecssion: A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62 FLUGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -- SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243 RSQPGAEGSPESPPGRCCR---CCRAPRLLQAYSWKEEEEEDEGSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSILVSL-----ALRQREY 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      298 SEVVIKMPMVDSEAQAPTKOPPKSSPNTVKRPTKKG---RDRGGKGCKPRGKEQLAKRKT 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71
                                                                                                                                                                                                 muscarinic receptor - rat
C;Spcies: Rattus sp. (rat)
C;Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 24-Nov-1999
C;Accession: I51837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       175 YILTITMLLEFLLPVISVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IITEGTAMAAFYLPVTVMC----TLYWRIYRETENRARELAALOGSETPGKGGGSSSSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5 NSTGILPPAAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Cross-references: GB:S73971; NID:g241253; PIDN:AAB20705.1; PID:g241254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.0%; Score 410; DB 2; Length 46 27.4%; Pred. No. 1.7e-27; Aative 83; Mismatches 151; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VNPFLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   437
413 VNPMCYALCNKAFRDTF-RLLLLCRW 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ||| | || : |: | :: | :: | :: | VNPMCYALCNKAFRDTF-RLLLLCRW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -GHLHRAGVACRT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A,Gene: m1
C,Superfamily: vertebrate rhodopsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-460 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                               g
                                                                 Advalue acetylcholine receptor M1 - rat

C.Species: Rattus norvegitus (Norway rat)

C.Species: Rattus norvegitus (Norway rat)

C.Date: 30-Jun-1999 #sequence revision 30-Jun-1999 #text_change 24-Nov-1999

R.Bonner, 7.1.; Buckley, N.J.; Young, A.C.; Brann, M.R.

A.Mocession: A94518

A.Mocession: A9453

A.Molecule type: mRNA

A.Residues: 1.227.338-460 *E02>

A.Residues: D.C. Chem. 265. 13702-13704, 1990

A.Residues: D.C. Chem. 265. 13702-13704, 1990

A.Residues: D.C. Chem. 265. 13702-13704, 1990

A.Residues: C.A.R. Pedder, E.K.; Altken, A.; Harris, A.C.M.; Hulme, E.C.

A.Residues: C.J. C.C. Chem. 265. 13702-13704, 1990

A.Residues: Preliminary

A.Reterance number: A.J. A.J. A.J. Multip. 90337982; PMID:2380182

A.Rocession: A.J. A.J.

A.Reterance number: A.J. A.J. A.J.

A.Reterance number: A.J. A.J. A.J.

A.Reterance number: A.J. A.J. A.J.

A.Rocession: A.J. A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.Rocession: A.J.

A.R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FLUGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SYRAQHTGIMKIVAQMVAV-WILAPLVNGPMILASDSWKNSTNTK----DCEPGFVTEW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          187 IITFGTAMAAFYLPUTVMC----TLYWRIYRETENRARELAALQGSETPGKGGGSSSSSE 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RSQPGAEGSPESPPGRCCR---CCRAPRLLQAYSWKEEEEEDEGSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259 SSILVSL-----ALROREY 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ::: ; | | | | : |: | | | | 298 SEVVIKMPENDSEAQAPTKQPPKSSPNTVKRPTKKG---RDRGGKGQKPRGKEQLAKRKT 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          295 AELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5 NSTGILPPAAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YILTITMLLEFLLPVISVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NITVLAPGKGPWQVAFIGITTGLLSLATVTGNLLVLISFKVNTELKTVNNYFLLSLACAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       83; Mismatches 151; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20.0%; Score 410; DB 2;
ilarity 27.4%; Pred. No. 1.7e-27;
Conservative 83; Mismatches 151:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GHLHRAGVACRT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VNPFLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
nes 122; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loca
Matches
```

g

g ŏ QQ ò g à qq à ద ð 셤

à

D

```
Query Match 19.7%
Best Local Similarity 24.0%
Matches 121; Conservative
              125; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                514
              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                               ਨੇ
                                                                            dd
                                                                                                                 à
                                                                                                                                            임
                                                                                                                                                                                    ò
                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                           \delta
                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Experimental source: brain
C; Superfamily: vertebrate rhodopsin
C; Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; transme
F;67-90/Domain: transmembrane #status predicted <TMl>
F;104-124/Domain: transmembrane #status predicted <TML>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  screening.
                                                                                                                                 17;
                                                                                                                                                                                                                                       132
                                                                                                                                                                                                                                                187
                                                                                                                                                                                                                                                                                                                                 191 LA-----WVISFILWAPALL---FWQYFVGKRTVPPGECFIQFLSEPTITFGTAIAAFYM 242
                                                                                                                                                                                                                                                                                                                                                                              245
                                                                                                                                                                                                                                                                                                                                                                                         254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298 QSMKRSARRKYGRCHFWFTTKSWKPSAEQMDQDHSSSDSWNNNDAAASLENSASSDEEDI 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSETRAIYSIVLKLPGHSTILNSTKLPSSDNLQVPEEELGSVGLERKPSKLQTQQSMDDG 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GSFQKSFSKLPIQLESAVDTAKASDVNSSVGKTTATLPLSFKEATLAKRFALKTRSQITK 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWF 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --LRQ 291
                                                                                                                                                         18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                             78 FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI
                                                                                                                                                                                                                                                                                                VAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYILTITMLLEFIL
                                                                                                                                                                                                                                                                                                                                                                   188 PVISVAYFNVQIYWSLWKRRALSRCPSHAGF--STTSSSASGHLHRAGVACRTSNPGLKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              muscarinic acetylcholine receptor M4 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 18-Feb-2000
C;Date: 34-0476
R;Braun, T.; Schoffield, P.R.; Shivers, B.D.; Pritchett, D.B.; Seeburg, P.H.
Biochem, Biophys. Res. Commun. 149, 125-132, 1987
A;Title: A novel subtype of muscarinic receptor identified by homology scree
A;Reference number: A29476; MUID:88077068; PMID:3120722
            A;Cross-references: EMBL:U08286; NID:g520465; PIDN:AAA51866.1; PID:g520466
                                                                                                                             Indels 161; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:M18088; NID:g202657; PIDN:AAA40659.1; PID:g202658
                                                                                             Length 590;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F:142-163/Domain: transmembrane #status predicted <TW3>F:184-206/Domain: transmembrane #status predicted <TW4>F:230-251/Domain: transmembrane #status predicted <TW5>F:230-251/Domain: transmembrane #status predicted <TW5>F:492-512/Domain: transmembrane #status predicted <TW6>F:527-545/Domain: transmembrane #status predicted <TW7>
                                                                                     20.0%; Score 409.5; DB 2; 25.0%; Pred. No. 2.6e-27; ive 83; Mismatches 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                -----HSES-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 403; DB 2;
Pred. No. 9.2e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----SITAFKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                279 GSFWRS-----ESAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NSFVNPFLYPLCHRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Superfamily: vertebrate rhodopsin C; Keywords: neurotransmitter receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255 ---PRRKSSILVSLRTH---MNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19.7%;
23.8%;
                                                                                                                          Conservative
                                                                                   Query Match
Best Local Similarity
Matches 126; Conserv
A;Residues: 1-590 <LEE>
                                                                                                                                                                                                                                                                                                                                                                                                                                           246 SAASR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-589 < BRA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                  ПP
                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

```
C;Accession: S10128
R;Peralta, E.G.; Ashkenazi, A.; Winslow, J.W.; Smith, D.H.; Ramachandran, J.; Capon, D.J.
BBO J. 6, 3923-3929, 1987
A;Title: Distinct primary structures, ligand-binding properties and tissue-specific expre
A;Reference number: S04326; MUID:88166632; PMID:3443095
A;Accession: S10128
      15;
                                                                                                             59 ISDFLVGLISIPLYIPHVLFN-WNFGSGICMFWLITDYLLCTASVXNIVLISYDRYQSVS 117
                                                                                                                                      118 NAVSYRAQHT----GIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG---- 169
                                                                                                                                                                                                                       223 QFLSEPTITEGTALAAFYMPVTIMTI----LYWRIYKETE-KRTKELAGLQASGTEABAE 277
                                                                                                                                                                                                                                                                                                                                                                                           278 NFVHPTGSSRSCSSYELQQQGVKR---SSRRKYGRCHFWFTTKSWKPSAEQMDQDHSSSD 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   335 SWININDAAASLENSASSDEEDIGSETRAIYSIVLKLPGHSSILNSTKLPSSDNLQVSNED 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           288
                                             28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -----LRQREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLS 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77
                                                              4 SNSTGILPPAAQ-----VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLA
                                                                                                                                                                                                                                                                         -FVTEWYILTITMLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGF--STTSSSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        455 LSFKEATLAKRFALKTRSQITKRKRMSLIKEKKAAQTLSAILLAFIITWTPYNIMVLV-N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Species: Homo sapiens (man)
Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 18-Feb-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      395 LGTVDVERNAHKLQAQKSMGDGDNCQKDFTKLPIQLESAVDTGKTSDTNSSADKTTATLP
    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                            ---SSILVSLRTHMNSSI---
    172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TAFKVGSFWRSESAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 590;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          330 TYPRIBRPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKIL 375
  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84; Mismatches 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19.7%; Score 402.5; DB 2; 24.0%; Pred. No. 1e-26; tive 86; Mismatches 135;
                                                                                                                                                                                                                                                                                                                                                        227 GHLHRAGVACRISNPGLKESAASRHSESPRRK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 muscarinic acetylcholine receptor M4 - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
```

à

```
atrium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76 VLF-NWNFGSGICMFWLITDYLLCTASYYNIVLISYDRYQSVSNAVSYRAQHT----GIM 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15;
                                                                                                                                                                                                                                                                                                                                                                                                               258
                                                                                                                                                                                                                                                                                                                                                                                                                                                         334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    335 SWNNNDAAASLENSASSDEEDIGSETRAIYSIVLKLPGHSSILNSTKLPSSDNLQVSNED 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --LRQREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLS 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118 NAVSYRAQHT----GIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG---- 169
                                                                                                                                                                                                                                                                                                                        226
                                                                                                                                                                                                                                                                                                                                                                 277
                                                                                  ISDFLVGLISIPLYIPHVLFN-WNFGSGICMFWLITDYLLCTASVXNIVLISYDRYQSVS 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            chick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  muscarinic acetylcholine receptor, M3 isoform - chicken muscarinic acetylcholine receptor, C;Species: Gallus gallus (chicken) C;Species: Gallus gallus (chicken) C;Date: 11-Nov-1994 #sequence_revision 11-Nov-1994 #text_change 21-Jul-2000 C;Accession: A55019 R;Gadbut, A.P.; Galper, J.B. R;Gadbut, A.P.; Galper, J.B. J. Biol. Chem. 269, 25823-25829, 1994 A;Itle: A novel M-3 muscarinic acetylcholine receptor is expressed in chick A;Reference number: A55019; MUID:95014393; PMID:7929287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16 VPLAFLMSSFAFRAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                            -FVTEWYILTITMLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGF--STTSSSAS
                                                                                                                                                                                                                                                                                                                                                      395 IGTVDVERNAHKLQAQKSMGDGDNCQKDFTKLPIQLESÄVDTGKTSDTNSSÄDKTTATLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ---SSILVSLRTHMNSSI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                    SNSTGILPPAAQ-----VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFINLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:L10617; NID:g530097; PIDN:AAA65961.1; PID:g530098 C;Superfamily: vertebrate rhodopsin C;Keywords: neurotransmitter receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84; Mismatches 136; Indels 164;
             172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --TAFKVGSFWRSESAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19.6%; Score 401; DB 2; Length 639;
llarity 24.4%; Pred. No. 1.5e-26;
Conservative 84; Mismatches 136; Indels 10
                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKIL
                84; Mismatches 145;
Pred. No. 1.1e-26;
                                                                                                                                                                                                                                                                                                                                                                                                                  GHLHRAGVACRTSNPGLKESAASRHSESPRRK---
23.8%;
                    125; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-639 <GAD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Accession: A55019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     237 IGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S:
Matches 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               330
                                                                                                                                                         59
                                                                                                                                                                                                                                                                                                                                 170
                                                                                                                                                                                                                                                                                                                                                                                                                        227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                259
                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ⋩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \dot{\delta}
                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                       à
                                                                                                              셤
                                                                                                                                                            à
                                                                                                                                                                                              g
                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11

By 5914

muscarinic acetylcholine receptor M3 - rat

muscarinic acetylcholine receptor M3 - rat

C; Species. Ratus norvegicus (Norway rat)

C; Species. Ratus norvegicus (Norway rat)

C; Species.

By 5028 # sequence ration 30 - Jun-1989 # text_change 18-Feb-2000

C; Accession: B94518; B94293; B37121; B29514

R; Bonner, T. T.

Submitted to GenBank, July 1987

A; Reference number: A94518

A; Reference number: A94518

A; Recession: B94518

A; Recession: B94518

A; Recession: B94518

A; Recession: B94518

A; Recession: B94293

A; Recessio
                                                                                                                                                                                                                                                                                                                                                                                 357 IGSETRAIYSIVLKLPGHSTILNSTKLPSSDNLQVPEEELGMVDLERKADKLQAQKSVDD 416
                                                                                                                                                                                                                                                                                                                                                                                                                             ---FWRSESAALR 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGSFPKSFSKLPIQLESAVDTAKTSDVNSSVGKSTATLPLSFKEATLAKRFALKTRSQIT 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QREYABILIRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQW 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F,6,15,41,48,52/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                            | | : :|| : :|| 243 PVTIMTI----LYWRIYKETEKRTKELAGLQASGTEAETENFVHPTGSSRSCSSYELQQQ 298
                                                                                                                                                                                                                                                                               VAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYLLTITMLLEFLL 187
    LA-----WVISFVLWAPALL---FWQYFVGKRTVPPGECFIQFLSEPTITFGTALAAFYM
                                                                                                                                                                                                                                                        SSSASGHLHRAGVACRTSNPGLKES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 402; DB 2; Length 589
                                                                                                                                                                                                                                                                                                                                                                                                                                  ---TAFKVGS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F;230-251/Domain: transmembrane #status predicted <TM5>F;492-512/Domain: transmembrane #status predicted <TM6>F;527-545/Domain: transmembrane #status predicted <TM6>F;527-545/Domain: transmembrane #status predicted <TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                    --ESPRRKSSILVSLR-----THMNSSI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                351 FNSFVNPFLYPLCHRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----RRALSRCPSHAGFSTT-
                                                                                                                                                                                                                                                                                                                                                 -SH----
                                                                                                                                                                          PVISVAYFNVQIYWSLWK-
                                                                                                                                                                                                                                                                                                                                                    AASR---
                                                                                                                                                                                                                                                                                                        299
                                                                                                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                                                                                                                                         253
                                                                                     133
                                                                                                                              191
                                                                                                                                                                          188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                          ð
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                 상
음
                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                            g
```

and

19.68;

Query Match

ON 186 LLPVISVANTRWOINWEINKRRALSRCPSHAGESTRSSASGHIHFRAUACKTSUPGL 243 289 Y V 1:	09 225 A8
Filo-12170main: transmembrane #status predicted <tm3> Filo-12170main: transmembrane #status predicted <tm4> Fild-12170main: transmembrane #status predicted <tm4> Fild-168/Domain: transmembrane #status predicted <tm5> Fild-168/Domain: transmembrane #status predicted <tm5> Fild-108/Domain: transmembrane #status predicted <tm5> Fild-108/Domain: transmembrane #status predicted <tm5> Fild-108/Domain: transmembrane #status predicted <tm7> Query Match 19.5%; Score 400; DB 2; Length 460; Best Local Similarity 27.0%; Pred. No. 1.3e-26; Matches 120; Conservative 86; Mismatches 152; Indels 86; Gaps 19; QY 5 NSTGILPPAAQVPLAFLASSFAFAINVGNAVILAFVVDRNLRHSNYFFLNLAISD 61 </tm7></tm5></tm5></tm5></tm5></tm4></tm4></tm3>	0

us-10-626-445-8.rpr

```
Libral Adrenergic receptor - Japanese medaka
C, Species: Oryzias latipes (Japanese medaka)
C, Species: Oryzias latipes (Japanese medaka)
C, Bate: 23-Jul-1997 #sequence_revision 01-Aug-1997 #text_change 17-Mar-1999
C, Accession: S71323
K; Yasuoka, A.; Abe, K.; Arai, S.; Emori, Y.

Bur. J. Blochem. 235, S01-S07, 1996
A; Title: Molecular cloning and functional expression of the alpha-1-A-adrenoceptor of A; Reference number: S71323, MUID:96184522; PMID:8654394
A, Reference rumber: S71323
A; Residuals: preliminary
A; Molecule type: DNA
A; Residuals: 1-477 < 4Xa>
A; Rosidues: 1-477 < 4Xa>
A; Cross-references: EMBL:D63859
A; Octes: it is uncertain whether Met-1 or Met-8 is the initiator
C; Superfamily: vertebrate rhodopsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          216 --VVAQKESRGLKEGQXIEKSDSEQ-----VILRMHRGNTTV-----SEDEALRS 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   292 REYAEL----LRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAF 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    232 AGVACRISNPGLKESAASRHSESPRRKSSILVSLRIHMNSSITAFKVGSFWRSBSAALRQ 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SDFLVGLISIPL-YIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSN 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             119 AVSYRAQHTGIMKIVAQMVAVWILAFLVN-GPMILASDSWKNSTNTKD--C----EPGFV 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            172 TEWYILTITMLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHR 231
                                      SLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLYPLCHR 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59
383 LVVKADGNQETNNGCHKVKIMPCPFPVAKEPSTKGLNPNPSHQMTKRKRVVLVKERKAAQ 442
                                                                  18 SNCSHVLAPELNIVKAVVLGMYLGIFILFGVIGNILVILSVVCHRHLQTVTYYFIVNLAV 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 SNSTGILPP----AAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     347 WLOWFNSFVNPFLYPLCHRRFOKAFWKIL---CVTKWPA----LSQNQS 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             318 WLGYFNSCINPIIYLCSNQEFKKAFQSLLGVHCLRMTPRAHHHHLSVGQS 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 28.0%; Pred. No. 5.8e-26;
Matches 115; Conservative 65; Mismatches 145; Indels 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Search completed: October 1, 2004, 10:13:03 Job time: 21 secs
                                                                                                                              366 RFOKAFWKILCVTKW 380
                                                                                                                                                      |:| | |:| : :|
TFRKTF-KMLLLCRW 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09
                                                   306
                                                                                                                                                                         501
                                                                                                                                                                                                                                        RESULT 15
S71323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                        q
                                                                                                                                   à
                                                                                                                                                                         g
                                                   \delta
```

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

OM protein - protein search, using sw model

October 1, 2004, 10:05:12 ; Search time 13 Seconds (without alignments) 1566.110 Million cell updates/sec Run on:

US-10-626-445-8 2048 1 MSESNSTGILPPPAAQVPLAF......WKILCVTKWPALSQNQSVSS 391 Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

141681 141681 seqs, 52070155 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_42:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		*			SUMMARIES	
Result	arco.	Query		Ę	ŕ	
	1000	March	nafinari	<u>a</u> ;	1b	Description
1	1370.5		390	Н	HH4R HUMAN	O9h3n8 bomo sapien
01	722.5	35.3	445	Н	HH3R HUMAN	homo
m	721		445	Н	HH3R_CAVPO	cavia
4	716.5		445	٦	HH3R_RAT	rattu
ഗ	715.5		445	Н	HH3R MOUSE	
9	418		460	н	ACM1_MACMU	
7	414.5	20.5	532	П		P56490 macaca mula
æ ·	413		460	ч		homo sa
ָּס	413		460	Н	ACM1 PIG	
10	410.5		531	٦	ACMS RAT	Н
11	410.5		590	н	ACM3 PIG	~
12	410		460	Н	ACM1 RAT	~
13	409.5	20.0	590	Н	ACM3_BOVIN	
14	0		585	Н	ACM3 CAEEL	
15	404.5		532	П	ACM5 HUMAN	
16	404		589	Н	ACM3 MOUSE	
17	403.5		590	П	ACM3 PONPY	. ~
18	402.5		590	Н	ACM3 GORGO	
61.	402.5	o,	590	П	ACM3 HUMAN	6
20	402.5	g	590	Н	ACM3_PANTR	
21	402	σ,	589	Н	ACM3_RAT	
22	401	19.6	460		ACM1_MOUSE	~
23	4.		639		ACM3_CHICK	-
47	394.5	19.3	216		Alab_Rabit	002666 oryctolagus
525	666	•	444		OAR_CAEEL	
p [7	19.5	562	-1	A1AD_MOUSE	P97714 mus musculu
17	392.5	19.2	470		- 1	Q91175 oryzias lat
87.0	m		490	Н	ACM4_CHICK	_
2.5	6	19.1	400	Н	D3DR CERAE	
30	80		400	Н	D3DR HUMAN	
31	389.5	19.0	515	П	Alab MESAU	841 1
32	89		515	Н	A1AB_RAT	823
33	88	19.0	491	Н	HH1R_BOVIN	546
					l	

P25100 homo sapien	P70174 mus musculu P35367 homo sanien	O9n2b2 pan troglod	P31389 cavia porce	P97717 mis misculu	P35368 homo ganien	P23944 rattus norv	PO8173 homo sanien	PO8172 homo ganien	O91081 Jahran	P10980 rattus norv
AIAD_HUMAN	HHIR HUMAN	HH1R PANTR	HH1R CAVPO	A1AB MOUSE	A1AB_HUMAN	A1AD_RAT	ACM4 HUMAN	ACM2 HUMAN	A2AR_LABOS	ACM2_RAT
н.		Н	Н	-	Н	Н	Н	н	Н	Н
572	487	487	488	514	519	561	479	466	432	466
19.0	18.9	18.9	18.8	18.8	18.8	18.7	18.7	18.6	18.6	18.5
388.5	386.5	386.5	385.5	385	384.5	382.5	382	380.5	380	379.5
34	36	37	38	33	40	41	42	43	44	45

ALIGNMENTS

	SUI 4R	DT 16-0CT-2001 (Rel. 40, Created) DT 16-0CT-2001 (Rel. 40, Last sequence update) DT 15-MAR-2004 (Rel. 43, Last sequence update) DE Histamine H4 receptor (HH4R) (GPRv53) (G protein-coupled receptor 105) DE (GPRC105) (SP9144) (AXOR35).	OS Homo sapiens (Human). OC Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. OX NCBI_TaxID=9606;			RP SEQUENCE FROM N.A. RA Jones P.G., Wu S., Betty M.; RT "Cloning of a novel histamine receptor."; RL Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.		
--	-----------	---	--	--	--	---	--	--

```
Fihistamine receptor activity; NAS.
                                                                                                                                                                                                                                                                                                                                                                  GO; GO:0016021; C:integral to membrane; NAS.
                                                                                                                                                                                                                                                                                                                                                                             InterPro, IPR000276; GPCR Rhodpsn.
InterPro, IPR008102; Histamine_H4.
                              Mol. Pharmacol. 59:434-441(2001)
                                                                                                                                                                                                                                                                                                        EMBL; AB044934; BAB13698.1; -.
EMBL; AB045370; BAB20091.1; -.
                                                                                                                                                                                                                                                                                                                    AF307973; AAG32052.1;
AF312230; AAK12081.1;
                                                                                                                                                                                                                                                                                                                               AAK43542.1;
AAL01684.1;
                                                                                                                                                                                                                                                                                                                                          CAC83493.1;
                                                                                                                                                                                                                                                                                                                                              AY136745; AAN01271.1;
                                                                                                                                                                                                                                                                                                                                                     PIR; JC7566; JC7566.
Genew; HGNC:17383; HRH4.
                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR008102; Hie
Pfam; PF00001; 7tm_1; 1.
                                          SEQUENCE FROM N.A.
                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                AF329449;
                                                                                                                                                                                                                                                                                                                                     AF325356;
                                                                                                                                                                                                                                                                                                                                                                          GO; GO:0004969;
                                                                                                                                                                                                                                                                                                                                         AJ298292;
                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                               MIM;
```

```
7 (POTENTIAL).
CYDPLASMIC (POTENTIAL).
EXTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.9%; Score 1370.5; DB 1; Length 390; 68.1%; Pred. No. 1.2e-85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S-palmitoyl cysteine (Potential).
A -> V (IN REF. 1).
H -> R (IN REF. 1).
O -> R (IN REF. 1).
C986BBAE7FF912C3 CRC64;
                      PRINTS; PR01726; HISTAMINEH4R.
PROSITE: PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE: PS00262; G_PROTEIN_RECEP_F1_2; 1.
G_protein_coupled_receptor; Transmembrane; Glycoprotein;
                                                                                                                                                      EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                      3 (POIENTIAL).
CYTOPLASMIC (POTENTIAL).
4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                 S (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40; Mismatches
                                                                                                                                                                                                                                  2 (POTENTIAL)
                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                 3 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44495 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                  Lipoprotein; Palmitate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HH3R HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                               DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                           DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                 PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HH3R HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          datches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
SO STATE THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE PET THE P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lab-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Puhl H.L. III, Ikeda S.R., Aronstam R.S.; signal transduction "CDNA clones of human proteins involved in signal transduction sequenced by the Guthrie CDNA resource center (www.cdna.org)."; Submitted (UTL-2002) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: The H4 subclass of histamine receptors could mediate the histamine signals in peripheral tissues. Displays a significant level of constitutive activity (spontaneous activity in the
                                                                                                                                                                                                                                                            Zhu Y., Michalovich D., Wu H.-L., Tan K.B., Dytko G.M., Mannan I.J., Boyce R., Alston J., Tierney L.A., Li X., Herrity N.C., Vawter L., Sarau H.M., Ames R.S., Davenport C.M., Hieble P., Wilson S., Bergsman D.J., Fitzgerald L.R.; "Cloning, expression, and pharmacological characterization of a novel human histamine receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                      Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
```

```
241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALROREYAELLRG 300
                                                                                                                                                                                                                                                                                                                                                                                             SASTEVPASFHSERQRRKSSLMFSSRTKMNSNTIASKMGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                   RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                              299 RRLAKSLAILLGVFAVCWAPYSLFTIVLSFYSSATGPKSVWYKIAFWLQWFNSFVNPLLY 358
                                                                                                                                                                                                                   181 MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRISN 240
                                                                                                                                                                                                                                                                                                  9
                                                                           9
                                                               DFLVGLISIPLYIPHVLFNWNFGSGICWFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                           MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                              SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
Gaps
  Э,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           O9YSNI; Q9GZX2; Q9H4K8;
28-FBB-2003 (Rel. 41, Last squence update)
15-MRR-2004 (Rel. 41, Last squence update)
15-MRR-2004 (Rel. 43, Last annotation update)
Histamine H3 receptor (HH3R) (G protein-coupled receptor
    82; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PLCHRRFQKAFWKILCVTKWPALSQ-NOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLCHKRFOKAFLKIFCIKKOPLPSOHSRSVSS 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HRH3 OR GPCR97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OS DIT DIT
```

m

```
A MELLIME LALES 1749; PUDNECE LITSULOZ;
A MELLIME LALES 1749; PUDNECE LITSULOZ;
A Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
A Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,
A Bailey J., Barlow K.F., Bates K.N., Beard L.M., Brown A.J.,
Bassley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,
Buck D., Burill W.D., Buller A.P., Carder C., Carter N.P.,
Chapman J.C., Clamp M., Clark G., Clark L.N., Clark S.Y., Clee C.M.,
Collson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.
Collson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
Blington A.G., Frankland J.A., Fraser A., French L., Garner P.,
A Grafham D.V., Griffiths C., Griffiths M.N.D., Gwhlifths C., Howden P.J.,
Hammond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson D.,
Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.
A Minne S.A., Mistry D., Mocre M.J.F., Mullikin J.C., Nickerson T.,
RA Skuce C.D., Smith M.L., Scott C.B., Sehra H.K., Shownkeen R., Sims S.,
Skuce C.D., Smith M.L., Soderlund C., Steward C.A., Sulston J.E.,
Swann R.M., Sycamore N., Taylor R., Tomas D.W., Thorpe A.,
Racey A., Tromans A.C., Vaudin M., Wallis J.M., Williams S.A.,
Whitehead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
RA Rocers J., Waray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Thalamus;
MEDLINE=21181559; PubMed=11284713;
Coge F., Guenin S.-P., Audinot V., Renouard-Try A., Beauverger P.,
Macia C., Ouvry C., Nagel N., Rique H., Boutin J.A., Galizzi J.-P.;
"Genomic organization and characterization of splice variants of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "The DNA sequence and comparative analysis of human chromosome 20."; Nature 414:865-871(2001).
    Chordata; Craniata; Vertebrata; Buteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nakamura T., Itadani H., Hidaka Y., Ohta M., Tanaka K.; "Molecular cloning and characterization of a new human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT SHY-DRAGER SYNDROME
                                                                                                                                                                                                                                                                                      Lovenberg T.W., Roland B.L., Wilson S.J., Jiang X., Fyati J., Huvar A., Jackson M.R., Erlander M.G.; "Cloning and functional expression of the human histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ulfmer C., Zirwes E., Lubbert H., "Cloning and functional expression of the human histamine H3S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene (HRH3) and
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, butele
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORM 2), AND CHARACTERIZATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21953383; PubMed=11956964; Middemann P., Boenisch H., Oetters F., Bruess M.; Middemann P., Boenisch H., Oetters F., Bruess M.; Structure of the human histamine H3 receptor gene (identification of naturally occurring variations."; J. Neural Transm. 109:443-453(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORMS 1; 3; 4; 5; 6 AND 7)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem. Biophys. Res. Commun. 279:615-620(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mol. Pharmacol. 55:1101-1107(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=20568725; PubMed=11118334;
                                                                                                                                                                                                                                               MEDLINE=99278519; PubMed=10347254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=21638749; PubMed=11780052;
                                                                                                                                                                     FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORM 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 uman histamine H3 receptor."
iochem. J. 355:279-288(2001)
                                                                                  NCBI TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HH4R."
                                                                                                                                                                                                            TISSUE=Thalamus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        receptor,
                                                                                                                                                                                                                                                                                                                                                                                                                             receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rogers
```

```
155UE SPECIFICITY: Expressed predominantly in the CNS, with the greatest expression in the thalamus and caudate nucleus. The various isoforms are mainly coexpressed in brain, but their relative expression level varies in a region-specific manner. Isoforms 3 and 7 are highly expressed in the thalamus, caudate nucleus and cerebellum while isoforms 5 and 6 show a poor expression. Isoforms 5 and 6 show a high expression in the anygdala, substantia nigra, cerebral cortex and hypothalamus. Isoform 7 is not found in hypothalamus or substantia nigra. Isoform 7 is not found in hypothalamus or substantia nigra. Isoform 7 is not found in hypothalamus or substantia nigra. Imms. Isoform 7 is not found in hypothalamus or substantia nigra. Incorpin, bladder and bowel incontinence, anhidrosis, iris atrophy, amyotrophy, ataxia, rigidity and tremor. Insoforms 1 bladder and bowel incontinence, and tripolidine. Shows modest affinity to thioperamide, imetit, N-alpha-methylhistamine and R(-)-alpha-methylhistamine. Isoform 4 is unable to bind to indoproxyfan while isoforms 1 and 3 bind it with high affinity.

--- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the Buropean Bioinformatics Institute. There are no restrictions on its world field and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genew; HGNC:5184; HRH3.

MIM; 604525; -

MIM; 146500; -

GO:0005887; C:integral to plasma membrane; TAS.

GO; GO:0004969; F:histamine receptor activity; TAS.

GO; GO:0007187; P:G-protein signaling, coupled to cyclic nucl. .; TAS.

GO; GO:0007269; P:neurotransmitter secretion; TAS.
  FUNCTION: The H3 subclass of histamine receptors could mediate the
                    histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of agonist). Agonist stimulation of isoform 3 niether modified adenylate cyclase activity nor induced intracellular calcium
                                                                                                                                                   SUBCELLULAR LOCATION: Integral membrane protein. ALTERNATIVE PRODUCTS:
                                                                                                                                                                                              Bvent=Alternative splicing; Named isoforms=7;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                       sold=09Y5N1-4; Sequence=VSP_001881;
                                                                                                                                                                                                                                                                                                                         Name=3; Synonyms=H3S;
IsoId=Q9Y5N1-3; Sequence=VSP_001885;
                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=Q9Y5N1-5; Sequence=VSP_001882;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IsoId=Q9Y5N1-6; Sequence=VSP_001883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=Q9Y5N1-7; Sequence=VSP_001884;
                                                                                                                                                                                                                                                                                                    Isold=09Y5N1-2; Sequence=VSP_001886;
                                                                                                                                                                                                                                                            IsoId=Q9Y5N1-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR000276; GPCR_Rhodpsn.
InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF140538; AAD38151.1; -.
EMBL; AB045369; BAB20090.1; -.
EMBL; AB019000; BAB17030.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AJ296652; CAC51025.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AJ278250; CAC39434.1;
EMBL; AL078633; CAC04014.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF363791; AAK50040.1;
                                                                                                                               mobilization.
                                                                                                                                                                                                                                                                                                                                                                                                             Name=5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=7
```

receptor; Transmembrane; Glycoprotein;

```
DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                   ----
                                                                                                                                                                                                                                                                                          ----
                                                                                                                                                                                                                                                                                                                  10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   368 GLCWAPYTLIMIIRAACHGHCVP-DYMYETSFWLLMANSAVNPVLYPLCHHSFRRAFTKL 426
                                                                                                                                                                                                                                                                                                                                                                         78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                  VAVWILAFLVNGPMILASDSWK----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                         ------WSLWKRRALSRCPSH 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----AGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHSESPRRKSSILV 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        367
                                                                                                                                                                                                                                                                                                                                          77
                                                                                                                                                                                                                                                                                                                                                          96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        264 SLRTHMNSSITAFKVGSFWRSESAALRQR-----EYAELLRGRKLARSLAILLSAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----SLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       315 AICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKI
                                                                                                                                                                                                                                                                                                                                                   214 VTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLH
                                                                                                                                                                                                                                                                                                                                          18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                          93;
                                                                                                                                                             N-LINKED (GLCNAC. . .) (POTENTIAL).
Missing (in isoform 4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1; Length 445;
                                                                                                                                                                                                                                                                   -> V (IN SHY-DRAGER SYNDROME)
                                                                                                                                                                                                                                                   -> KKMKKKTCL (in isoform 2).
                                                                                                                                                                                                                                                                                                            35.3%; Score 722.5; DB 1; Length 38.8%; Pred. No. 6.5e-42; ive 51; Mismatches 116; Indels
                                                                                                                                                                                                                                                                                   -> D (IN REF. 1 AND 5).
2ACF7440FBE95B6C CRC64;
        Disease mutation.
EXTRACELLULAR (POTENTIAL)
                                              EXTRACELLULAR (POTENTIAL)
                                                                               EXTRACELLULAR (POTENTIAL)
                                                                                                              EXTRACELLULAR (POTENTIAL)
                                                                                              CYTOPLASMIC (POTENTIAL).
                               CYTOPLASMIC (POTENTIAL).
                                                              CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                            /FTId=VSP 001884.
Missing (In isoform 3).
/FTId=VSP 001885.
                                                                                                                                                                                                    (in isoform 6).
P 001883.
                                                                                                                             CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                    (in isoform 5).
                                                                                                                                                                                                                    Missing (in isoform 7). /FIId=VSP_001884.
                                                                                                                                                                                                                                                                            012235.
                                                                                                                                                                                                                                                            001886.
                                                                                                                                                                              001881
                                                                                                                                                                                                                                                            /FTId=VSP
                                                        POTENTIAL.
                                                                                                       POTENTIAL.
                                                                                                                                                                                              FTIG=VSP
                                                                                                                                                                                                              FTIG=VSP
                                                                                                                                                                             FTIG=VSP
                                                                                                                                                                                                                                                                            /FTId=VAR
                                                                                        POTENTIAL
                                                                                                                                                                                       Missing
                                                                                                                                                                                                                                                                                            48671 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                           VAYFNVQIY-----
                                                                                                                                                                                                                                                                                                                       Best Local Similarity 38.8
Matches 165; Conservative
                                                                                                                                                                                                                                      353
                                                                                                                                                                                                                                                     445
                                                                                                                                                                                                                                                                     280
                315
                                                                                                                                                                                                       342
                                                                                                                                                                                                                       263
G-protein coupled rece
Alternative splicing;
DOMAIN 1 39
TRANSMEM 40 60
                                                                                                                                                                                                                                                                                     19
445 AA;
                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LCPOK 431
                                                                                                                                                                                                                                                                     280
                                                                       157
                                                                                                                                                                                                                                      274
                                                                                                                                                                                                                                                      445
                        40
61
71
92
109
                                                                                               218
360
381
396
                                                                                                                                                                                                       227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           375
                                                                                                                                                                                                                                                                                                                                                                                                                                            192
                                        TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                            137
                                                                                                                                                                                                                                                                                                                                                                                                                            157
                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                        DOMAIN
CARBOHYD
                                                                                                DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                      VARSPLIC
                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                                      VARSPLIC
                                                                                                                                                                                                                                                                                      CONFLICT
                                                                                                                                                                                                                                                                      VARIANT
                                                                                                                               DOMAIN
                                 DOMAIN
                                                                                                                                               NOMAIN
```

qq $\stackrel{>}{\circ}$ g à a à g ŏ d à d ð

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                              Tractivel-Laccombe J., Rouleau A., Heron A., Morisset S., Pillot C., Cochois V., Schwartz J.-C., Arrang J.-M.; Morisset S., Pillot C., Cochois V., Schwartz J.-C., Arrang J.-M.; Percentage and cerebral expression of the guinea pig histamine H3 "Cloning and cerebral expression of the guinea pig histamine H3 NeuroReport 11:755-759(2000).

-I- FUNCTION: The H3 subclass of histamine receptors could mediate the histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylace cyclase and displays high constitutive activity (spontaneous activity in the absence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=Long; Synonyms=H3L;
Isold=09J135-1; Sequence=Displayed;
Name=Short; Synonyms=H3S;
Isold=09J135-2; Sequence=VSP_001880;
Isold=09J135-2; Sequence=VSP_01880;
TISSUE SPECIFICITY: Expressed widely and abundantly throughout the prish. Highly expressed in discrete neuronal populations such as pyramidal cells in cerebral cortex or cerebellar Purkinje cells.
SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                               Cavia porcellus (Guinea pig).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Hystricognathi, Caviidae, Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AF267537; AAF78947.1; -.

R EMBL; AF267538; AAF78950.1; -.

R InterPro; IPR000276; GPCR_Rhodpsn.

R InterPro; IPR003980; H3_receptor.

R Pfam; PF00001; 7tm 1; 1.

R PRINTS; PR01471; HISTAMINEN3R.

R PRINTS; PS00237; GPCREHODOSN.

R PROSTITE; PS500237; GPROTEIN RECEP_F1_1; 1.

R PROSTITE; PS500237; GPROTEIN RECEP_F1_2; 1.

R G-protein coupled receptor; Transmembrane; Glycoprotein;

Alternative splicing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL) POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBSTITUTAR LOCATION: Integral membrane protein. ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=2;
HH3R_CAVPO STANDARD; PRT; 445 AA. 09J135; 09J136; 28-FBB-2003 (Rel. 41, Created) 28-FBB-2003 (Rel. 41, Last sequence update) 28-FBR-2004 (Rel. 41, Last annotation update) Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORMS LONG AND SHORT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Brain;
MEDLINE=20218440; PubMed=10757514;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40
611
711
92
1130
1157
1157
1197
3380
3380
                                                                                                                                                                                                                                                                             NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
72
93
110
1131
1131
1139
1179
1198
219
3219
381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  agonist)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
```

EXTRACELLULAR (POTENTIAL).

qq δ Ŋ

```
9
                                                                                                                                                                                                                                           78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLLSYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                157
                                                                                                                                                                                                                                                                                                              191
                                                                                                                                                                                                                                                                                                                                             214
                                                                                                                                                                                                                                                                                                                                                                          214
                                                                                                                                                                                                                                                                                                                                                                                                215 VTFFNLSİYLNIQRRTRLRLDGGAREAGPDPLPEAQSSPPQPPPGCWGCWPKGQGESMPL 274
                                                                                                                                                                                                                                                                                                                                                                                                                               215 HA-GFSTISSSA-SGHLHRAGVACRISNPGLKESAASRHSESPRRKSSILVSLRTHMNSS 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            273 ITAFKVGSFWRSESAALROREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYP 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             328 ASSASLEKRMKWVSQSITQR--FRLSRDKKVAKSLAIIVSIFGLCWAPYTLLMIIRAACH 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                            275 HRYGVGEAGPGAEAGEAALGGGSGAAASPTSSSGSSSRGTERPR-----SLKRGSKPS 327
                                                                                                                                                                                      11
                                                                                                                                                                                                                     97
                                                                                                                                                                                                     98 TGRWIFGRGLCKLWLVVDYLLCTSSVFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKM
                                                                                                                                                                                                                                                                                                      137 VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFILPVIS
                                                                                                                                                                                18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                     158 VLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                        ----WSLWKRRALSRCPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Morisset S., Rouleau A., Ligneau X., Gbahou F., Tardivel-Lacombe J., Stark H., Schunack W., Ganellin C.R., Schwartz J.-C., Arrang J.-M.; "High constitutive activity of native H3 receptors regulates histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                              .) (POTENTIAL).
                                                                                                                                                        58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Hypothalamus;
MEDLINE=20330707; PubMed=10869375;
Lovenberg T.W., Pyati J., Chang H., Wilson S.J., Erlander M.G.;
"Cloning of rat histamine H3 receptor reveals distinct species
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       333 RIERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             386 GHCVP-DYWYETSFWLLWANSAVNPVLYPICHYSFRRAFTKLLCPQK 431
                                                                                                                      Length 445,
                                                                                                                                                   54; Mismatches 133; Indels
                                                            (in isoform Short)
                                         N-LINKED (GLCNAC. . .) (PC
Missing (in isoform Short)
/FTId=VSP 001880.
BAE206A3887189A0 CRC64;
POTENTIAL.
CYTOPLASMIC (POTENTIAL).
POLY-ALA.
                                                                                                                     35.2%; Score 721; DB 1; 39.8%; Pred. No. 8.2e-42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OSOTNB; OSOTNB; OSOTNB; OSOTNB; 28-FFB-2003 (Rel. 41, Created)
28-FFB-2003 (Rel. 41, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORMS 1; 2; 3 AND 4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pharmacol. Exp. Ther. 293:771-778(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORMS 1 AND 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21016732; PubMed=11130725;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                        48734 MW;
                                                                                                                                                                                                                                                                                                                                                                   192 VAYFNVQIY------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   profiles.";
                                                                                                                                                   162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wature 408:860-864(2000)
413
445
24
11
305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus (Rat)
                                                                                        445 AA;
                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        neurons in brain.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
399
420
20
11
276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Striatum;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pharmacological
TRANSMEM
DOMAIN
                                           CARBOHYD
                                                                                        SEQUENCE
                                                         VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RAT
                           DOMAIN
                                                                                                                                   Best Loca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HH3R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HH3R_1
ET LES
                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                              Isola-090XN8-4; Sequence-VSP 001888, VSP 001889; TISSUE SPECIFICITY: Expressed abundantly in brain, most notably throughout the Thalamus, the ventromedial hypothalamus and the caudate nucleus. Isoform 1 is largely predominant in all tissues. MISCELLANEOUS: Proxyfan acts as a potent neutral antagonist while thioperamide, ciproxifan and FUB465 act as potent inverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                     TISSUE SPECIFICITY.
MEDLINE=99278519; PubMed=10347254;
MEDLINE=99278519; PubMed=10347254;
Lovenberg T.W., Roland B.L., Wilson S.J., Jiang X., Pyati J.,
Huvar A., Jackson M.R., Erlander M.G.;
"Cloning and functional expression of the human histamine H3
Itadani H., Takimura T., Nakamura T., Ohta M.;
"Cloning of a novel G protein-coupled receptor.";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                     -!- SÜBCELLULAR LOCATION: Integral membrane protein.
-!- ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                 Event=Alternative splicing; Named isoforms=4;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                          Name=2; Synonyms=H3S;
IsoId=Q9QYN8-2; Sequence=VSP_001887;
                                                                                                                                                                                                                                                                                                                                                                      IsoId=090YN8-3; Sequence=VSP_001888;
                                                                                                                                                                                                                                                                                              Name=1; Synonyms=H3L;
IsoId=Q9QYN8-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL, AF237919, AAF82086.1, -
EMBL, AV009370; AAK02069.1; -
EMBL, AB015646; BAA89765.1, -
EMBL, AB015646; BAA89765.1, -
EMBL, AB015646; BAA89767.1; -
IML. AB015646; BAA89767.1; -
IMLE-PRO; IPR000276; GPCR, Rhodpsn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00001; 7tm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 218
360
381
397
                                                                                                                                                                                                                                                                                                                                                        Name=3;
                                                                                                                                                                                                                                                                                                                                                                                      Name=4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                      --
```

```
10;
                                                                                                                                                                                                                                                                                                                                                                                              230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        382
                                                                                                                                                                                                                                                                                                                                                                                                                                               269
                                                                                                                                                                                                                                                                                          F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                     213
                                                                                                                                                                                                                                                                                                                                                                                                                      273
                                                                                                                                                                                                                                                                                                                                             VAVWILAFLVNGPMILASDSWK----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RYGVG--EAGPGVEAGEAALGGGSGGGAASPTSSSGSSSRGTERPR-----SLKRGS 324
                                                                                                                                                                                                                                                        "Cloning of mouse histamine H3 receptor.";
Submitted (UUL-2001) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: The H3 subclass of histamine receptors could mediate the histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of agonist) (By similarity).
                                                                                   WYETSFWILIWANSAVNPVLYPLCHYSFRRAFTKILCPQKLK
VQPHGSLEQCWK -> CVERLGKLEASILILPIMMFSGRWRR
RKHYCELDVPWMFNQBRQNCRGARGWIGRCGLPRPPPSVLQ
                                                                                                                                                                                                                                                                                                                                                                  157 ALVWVLAFLIYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                                                               270 NSSITAFKVGSFWRSESAALRQREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                         HT----
                                                                                                                                                                                                                                                                                                                                                                                                                                               ------ESAASRHSESPRRKSSILVSLRTHM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Coge F., Rique H., Levacher B., Leopold O., Guenin S.-P., Boutin J.A.
Galizzi J.-P.;
                                                                                                                                                                                                                   Gaps
                                                                                                                           LPAEPRQLLLPAPPPGLGRWPCPACPVCTIRIWGWVVMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                     Missing (in isoform 3 and isoform 4) /FIId=VSP_001888.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPRIERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           431
                       (GLCNAC. . .) (POTENTIAL) (in isoform 2).
                                                                                                                                                                                                                 63;
                                                                                                                                                                                                                                                                                                                                                                                               --SRCPSHAGFSTTSSSASGH
                                                                                                                                                                                        DB 1; Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACHGRCIP-DYWYETSFWLLWANSAVNPVLYPLCHYSFRRAFTKLLCPQK
                                                                                                                                                                                     ; Score 716.5; DB 1; Length
; Pred. No. 1.7e-41;
54; Mismatches 128; Indels
                                                                                                                                                  FTId=VSP 001889.
63DFEFCZ1758FE5B CRC64;
CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                 001887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Æ
                                                                                                                                        (in isoform 4)
/FTId=VSP_0018
                                                  FTIG=VSP
             POLY-ALA.
N-LINKED
                                      Missing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Rel. 41, Created) (Rel. 41, Last seq (Rel. 41, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                  RAGVACRTSNPGLK-----
                                                                                                                                                                  48588 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HH3R).
                                                                                                                                                                                         35.0%;
                                                                                                                                                                                                                                                                                                                                                                                                  VAYFNVQIYWSLWKRRAL-
                                                                                                                                                                                                       al Similarity 40.2
165; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
  445
23
11
305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-FEB-2003 (Rel. 41,
Histamine H3 receptor
                                                                                        445
                                                               321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SECUENCE FROM N.A.
                                                                                                                                                                   445 AA;
  418
20
11
274
                                                               274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-FEB-2003
28-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _HH3R_MOUSE
P58406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               383
                                                                                                                                                                                                                                                                                                                                                                                                                                                   231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     330
                                                                                                                                                                                                                                                                                                                                                                                                  192
                                                                                                                                                                                                                                                                                                                                                 137
                         CARBOHYD
VARSPLIC
                                                                                                                                                                                                                                             18
                                                                                                                                                                                                                                                                                              78
                                                                                        VARSPLIC
                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                           Query Match
                                                                 VARSPLIC
                                                                                                                                                                                                         Local
             DOMAIN
  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HRH3.
                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
HH3R MOI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
  ET
FT
FT
FT
FT
FT
FT
FT
SO
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                             à
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           157 ALVWVLAFLLYGPALL -- SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTFFLS 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R----AGVACRTSNPGL------KESAASRHSESPRRKSSILVSLRTHMNS 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SITAFKVGSFWRSESAALROREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTY 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --SRCPSHAGFSTTSSSASGH----LH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                    SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        . 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      332 PRIERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    385 HGHCVP-DYWYETSFWLLMANSAVNPVLYPLCHYSFRRAFTKLLCPQK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PRO0237; GPCERHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00237; G PROTEIN RECEP F1_1; 1.
PROSITE; PS50262; GPROTEIN_RECEP F1_2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein.
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B8D406E29E1F3C5F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL)
SUBCELLULAR LOCATION: Integral membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 715.5; DB 1;
Pred. No. 1.9e-41;
L; Mismatches 132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POLY-ALA.
N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                             MGD; MGI:2139279; Hrh3.
InterPro; IPR000276; GPCR_Rhodpsn.
InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51;
                                                                                                                                                                                                                                                                    EMBL; AY044153; AAK72406.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             48541 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             34.9%;
40.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VAYFNVQIYWSLWKRRAL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 166; Conservative
                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00001; 7tm 1; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            108
129
156
177
177
217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
70
91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
  SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOLUTION SOL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
```

à 임

175 YILTITMLLEFLLPVISVAYFNVQIYWSLWKR----RAL----SRCPSHAGFSTTSS- 223

187 IITFGTAMAAFYLPVTVMC----TLYWRIYRETENRARELAALQGSETPGKGGGSSSSE

g

ð d

ò

224 ----SASGHLHR-AGVACRISNP------GLKESAASRHSESPRRKSSI 261

243 RSQPGAEGSPETPPGRCCRCCRPPRLLQAYSWKEDEEEDEGSMESLTSSEGEEP--GSEV 300

--RTHMNSSITAFKVGSFWRSESA----

262 LVSL-----

à

a

ò 셤

qq

à

297

---ALROREYAEL

358 FLYPLCHRRFQKAFWKILCVTKW 380

ð

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                        -!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE: PS00262; G PROTEIN RECEP F1 2; 1.
PROSITE: PS00562; G PROTEIN RECEP F1 2; 1.
PROSIDED REMAINS CHAPTER CHAPTER TRANSMEMBRANE;
Phosphorylation; Multigene family; G-protein coupled receptor.
DOMAIN 124 FXTRACELLULAR (POTENTIAL).
                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Butele
Mammalia, Butheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20.4%; Score 418; DB 1; Length 46(27.8%; Pred. No. 2.3e-21; ive 83; Mismatches 153; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHOSPHORYLATION (POTENTIAL).
PHOSPHORYLATION (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHORYLATION (POTENTIAL) PHOSPHORYLATION (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EXTRACELLULAR (POTENTIAL) 7 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1B19845C3BFE79CA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL) .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CYTOPLASMIC (POTENTIAL)
                                          15-UUL-1998 (Rel. 36, Created)
15-UUL-1998 (Rel. 36, Last sequence update)
15-UUL-1998 (Rel. 36, Last annotation update)
                         460 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CYTOPLASMIC
                                                                       15-JUL-1998 (Rel. 36, Last annotatio
Muscarinic acetylcholine receptor M1
                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; P02699; 1BOJ.
InterPro; IPR000276; GPCR_Rhodpsn.
                                                                                                           Macaca mulatta (Rhesus macaque)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AF026262; AAB95157.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51432 MW;
                                                                                                                                               Cercopithecinae; Macaca.
NCBL_TaxID=9544;
                                                                                                                                                                                  SEQUENCE FROM N.A.
TISSUE=Lens epithelium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24
47
61
82
99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       112
1178
1178
4428
4451
4455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        366
387
401
421
460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        141
164
186
209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451
455
457
460 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        210
                                                                                                                                                                                                                                                                                     TURNOVER
                     ACM1 MACMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DISULFID
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                  P564<u>8</u>9;
                                                                                              CHRM1.
T 6
MACMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                    Rae J.L., Shepard A.R.;
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: THE MUSCARINIC ACETYLCHOLINE RECEPTOR MEDIATES VARIOUS
CELLULAR RESPONSES, INCLUDING INHIBITION OF ADENYLATE CYCLASE,
BREAKDOWN OF PHOSPHOINOSITIDES & MODULATION OF POTASSIUM CHANNELS
THROUGH THE ACTION OF G PROTEINS. PRIMARY TRANSDUCING EFFECT IS PI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                           (Rel. 36, Created)
(Rel. 36, Last sequence update)
(Rel. 36, Last annotation update)
                                                                                                              532 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00237; GFCRHODOPSN.
PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; GPROTEIN RECEP F12; 1.
Muscarinic acetylcholine receptor M5
                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000276; GPCR_Rhodpsn. Pfam; PF00001; 7tm_1; 1.
                                                                                                                                                                                                                                        Macaca mulatta (Rhesus macaque)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF026264; AAB95159.1;
                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                   Cercopithecinae; Macaca
                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUE=Lens epithelium;
                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TURNOVER
                                                                                                                                             15-JUL-1998
                                                                                                                                                                 15-JUL-1998
                                                                                                                                                                                    15-JUL-1998
                                                                                                          ACMS MACMU
                                                                                                                        P56490,
                                                                                       ACM5 MACMU
                                                                                                                                                                                                                         CHRMS
                                                                                                                            d
```

Gaps

84;

123; Conservative

Matches

Similarity

Homo sapiens (Human)

```
15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        492
                                                                                                                                                                                                                                                                                                                                                               76 VLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIM 130
                                                                                                                                                                                                                                                                                                                                                                             YIPVSVMTILYCRIYRETEKRTKDLADLQGSDSVTEAEKRKPAHRALFRSCLRCPRPTLA 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --QREYAEL 297
                                                                                                                                                                                                                                                                                                                  16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH 75
                                                                                                                                                                                                                                                                                                                              31 ISIAAVTAVVSLITIVGNVLVMISFKVNSQLKTVNNYYLLSLACADLIIGIFSMNLYTTY 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF
                                                                                                                                                                                                                                                                                                                                                                                                                             :| ::| | | ::| : | | | 1.51 IGLA-----WIJSFILWAPAILC----WOYLVGKRTVPLDECQIQFLSEPTITFGTAIAAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --SRHSESPRRKSS-----ILVSLRTHMNSSITAFKVGSFWRSESAALR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319 PVLQVVYKSRGKESPGEEFSSEDAEETFVKAQTEKHDSDTP----NYFLSPAAHRPKSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           375 KCVAYKFRLVVKADGTQENNNGCHKVKIMPCSFPVAKEPSTKGLNPNPSHQMTKRKRMVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298 LRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRIERPKSVWYSIAFWLOWFNSFVNP
                                                                                                                                                                                                                                                                                             Gaps
membrane; Ionic channel; Glycoprotein; Transmembrane;
                                                                                                                                                                                 CYTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL)
        Phosphorylation, Multigene family; G-protein coupled receptor.
DOMAIN 1 29 EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                     DB 1; Length 532;
                                                                                                                                                                                                                                                                                            88; Mismatches 135; Indels
                                                                                                                                                                                                                                    (POTENTIAL).
                                                                                                                                                                                                                      PHOSPHORYLATION (POTENTIAL)
                                                        2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                EXTRACELLULAR (POTENTIAL)
                                                                                                                                                               EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                             33BCF6D67E600D79 CRC64;
                                                                               3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
4 (POTENTIAL).
                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                             CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---SHAGFSTTSSSASGHLHRAGVACRTSNPGLKESAA-
                                                                                                                                                                                                                                                                                  Pred. No. 4.4e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUL-1989 (Rel. 11, Created)
01-NOV-1990 (Rel. 16, Last sequence update)
115-MAR-2004 (Rel. 43, Last annotation update)
Muscarinic acetylcholine receptor M1.
CHRM1.
                                                                                                                                                                                                                                 PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 460 AA
                                                                                                                                                                                                                                                                     20.2%; Score 414.5; 24.5%; Pred. No. 4.40
                                                                                                                                                                            7 (POTENTIAL)
                                                                                                                               (POTENTIAL)
                                                                                                                                                    (POTENTIAL)
                                                                                                                                                                                                            SIMILARITY
                                                                                                                                                                                                N-LINKED
BY SIMILA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358 FLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              493 ICYALCNRTFRKTF-KMLLLCRW
                                                                                                                                                                                                                                                                                                                                                                                                                                                             186 LLPVISVAYFNVQIYWSLWKR
                                                                                                                                                                                                                                                60140 MW;
                                                                                                                                                                                                                                                                                              123; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                        29
66
66
87
1126
1191
1191
2191
                                                                                                                                        4443
464
478
498
                                                                                                                                                                                                 183
                                                                                                                                                                                                                       501
505
532 AA;
                                                                                                                                                                                                                                                                                  Similarity
                                 30
54
67
88
105
                                                                                                                                                                465
                                                                                                                                                                                                    103
                                                                                                                                                                                       499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 _ACM1_HUMAN
P11229;
01-JUL-1989 (
                                             DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          249
                       DOMAIN
TRANSMEM
                                                                                           DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                  MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214
                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                               TRANSMEM
                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                          RES
                                                                                                                                           DOMAIN
                                                                                                                                                                DOMAIN
                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HUMAN
                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACM1
LID
LID
DT
DT
GN
GN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
 g
                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΩD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
MEDLINB=22388257; PubMed=12477932;

Strausberg R.L., Peingold E.A., Grouse L.H., Derge J.G.,

Atlausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Antschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Antschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Antschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

Antschaffer C.F., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Antschaff S., Moraly T.B., Tonahiyuki S., Carninci P., Prange C.,

Antschaff S., Morley K.C., Ganalek J.A., Gay L.J., Hullyk S.W.,

Antschaff S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hullyk S.W.,

Antilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Antilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Antilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Antilalon M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

Antilalon D.K., Muzny D.M., Schmutz J., Myers R.M.,

Rodriguez A.C., Gilmwood J., Schmutz J., Myers R.M.,

Anterfield Y.S.N., Krzywinski M.I., Salaska U., Smailus D.E.,

Anterfield X.S.N., Krzywinski M.I., Salaska U., Smailus D.E.,

Human and Moule A.M. Anterpress of more than 15,000 full-length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Arden J.R., Nagate O., Shockley M.S., Philip M., Lameh J., Sadee W.;
Arden J.R., Nagate O., Shockley M.S., Philip M., Lameh J., Sadee W.;
Arden J.R., Nagate O., Shockley M.S., Philip M., Lameh J., Sadee W.;
Whaterional analysis of third cytoplasmic loop domains in G-protein
coupling of the HMI muscarinic receptor.";
Biochem. Biochem. 188:1111-1115 (1992)
-!- FUNCTION: The muscarinic acetylcholine receptor mediates various
cellular responses, including inhibition of adenylate cyclase,
breakdown of phosphoinositides and modulation of potassium
channels through the action of G proteins. Primary transducing
effect is PI turnover.
                                                                                                                              MEDINE=88096607; PubMed=3697105;
Allard W.J., Sigal I.S., Dixon R.A.F.;
"Sequence of the gene encoding the human M1 muscarinic acetylcholine
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIINE-88166632; PubMed=3443095;
Peralta E.G., Ashkenazi A., Winslow J.W., Smith D.H.,
Ramachandran, J., Capon D.J.;
"Distinct primary structures, ligand-binding properties and tissuespecific expression of four human muscarinic acetylcholine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                   Chapman C.G., Browne M.J.; "Isolation of the human ml (Hml) muscarinic acetylcholine receptor
              , Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Publ H.L. III, Ikeda S.R., Aronstam R.S.; schola clones of human proteins involved in signal transduction sequenced by the Guthrie CDNA resource center (www.cdna.org)."; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                    Nucleic Acids Res. 15:10604-10604(1987).
                                                                                                                                                                                                                                                                                                                                                                             gene by PCR amplification.";
Nucleic Acids Res. 18:2191-2191(1990).
                                                                                                                                                                                                                                                                                                          MEDLINE=90245684; PubMed=2336407;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBO J. 6:3923-3929(1987)
                      Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                      SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                  SEQUENCE FROM N.A.
                                                                     NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rissue=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MUTAGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   + +
```

σ

```
MIM; 118510; -.

R GO; GO:00058BB7; C:integral to plasma membrane; TAS.

GO; GO:0005624; C:membrane fraction; TAS.

R GO; GO:0004981; F:muscarinic acetylcholine receptor activity; TAS.

R GO; GO:000283; P:cetll proliferation; TAS.

R GO; GO:000239; P:cetll proliferation; TAS.

R GO; GO:0002039; P:muscarinic acetyl chilme receptor, phospho. .; TAS.

R GO; GO:0002039; P:phosphatidylinesitol-4,5-bisphosphate hydro. .; TAS.

R GO; GO:0002203; P:phosphatidylinesitol-4,5-bisphosphate hydro. .; TAS.

R GO; GO:0002205; P:protein kinase C activation; TAS.

R GO; GO:000544; P:protein kinase C activation; TAS.

R GO; GO:0001165; P:protein modification; TAS.

R GO; GO:0001165; P:signal transduction; TAS.

R HiterPro; IRRO0277; GFCR. Rhodpsn.

R HiterPro; IRRO0277; GFCR. Rhodpsn.
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to licenseaisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; FXOUS.), G_PROTEIN RECEP_F1_1; 1.
PROSITE; PS00237; G_PROTEIN RECEP_F1_2; 1.
PROSITE; PS50262; G_PROTEIN RECEP_F1_2; 1.
POSTSYNAPLIC membrane; Ionic channel; Glycoprotein; Transmembrane;
Phosphorylation; Multigene family; G-protein coupled receptor.
DOMAIN 1 24 EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-LINKED (GLCNAC. . .) (PROBABLE)
N-LINKED (GLCNAC. . .) (PROBABLE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.2%; Score 413; DB 1; Length 460; 27.4%; Pred. No. 4.9e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHOSPHORYLATION (POTENTIAL).
PHOSPHORYLATION (POTENTIAL).
PHOSPHORYLATION (POTENTIAL).
PHOSPHORYLATION (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84; Mismatches 150; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    * (FOIENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -> M (IN REF. 3).
567C20F63541C8D0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 (POTENTIAL)
                                                                                                                    EMBL; X52068; CAA36291.1; -.
EMBL; X15263; CAA33334.1; -.
EMBL; CAC6508; CAA68560.1; -.
EMBL; AF498915; AAM18938.1; -.
EMBL; BC007740; AAH07740.1; -.
EMBL; BC022984; AAH22984.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51420 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 122; Conservative
                                                                                                                                                                                                                                            Genew; HGNC:1950; CHRM1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47
82
82
121
121
141
164
186
209
387
401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12
178
178
428
451
457
173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                               PIR; S09508; S09508.
HSSP; P02699; 1BOJ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       451
455
457
457
173
160 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOD_RES
MOD_RES
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
```

61

ð

ò

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation. the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                   187 IITFGTAMAAFYLPVTVMC----TLYWRIYRETENRARELAALQGSETPGKGGGSSSSSE 242
SYRAQHIGIMKIVAOMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW 174
                                                                          SRCPSHAGFSTTSSS 224
                                                                                                                                               -----SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                 243 RŚQPGAEGSPETPPGRCCR---CCRAPRLLQAYSWKEEEEEDEGSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                              295 AELLRGRKUARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kubo T., Fukuda K., Mikami A., Maeda A., Takahashi H., Mishina M., Haga T., Haga K., Ichiyama A., Kangawa K., Kojima M., Matsuo H., Hirose T., Numa S., "Cloning Sequencing and expression of complementary DNA encoding the muscarinic acetylcholine receptor.";
Nature 333:411-416 (1986).
-!- FUNCTION: THE MUSCARINIC ACETYLCHOLINE RECEPTOR MEDIATES VARIOUS CELLULAR RESPONSES, INCLUDING INHIBITION OF ADENYLATE CYCLASE, BREAKDOWN OF PHOSPHOINOSITIDES & MODULATION OF POTASSIUM CHANNELS THROUGH THE ACTION OF G PROTEINS. PRIMARY TRANSDUCING EFFECT IS PI
                                                                                                                                                                                                                     259 SSILVSL-----ALRQREY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13.4UG-1987 (Rel. 05, Created)
13.4UG-1987 (Rel. 05, Last sequence update)
16.OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    460 AA.
                                                                      YILTITMLLEFLLPVISVAYFNVQIYWSLWKR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP; P02699; IBOJ.
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam, PF00001; 7fm 1, 1.
PRINTS; PR00237; GPCRFHODOPSN.
PROSITE; PS00237; GPROTEIN_RECEP_F1 1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1 2; 1.
                                                                                                                                                                                                                                                                                                                                                                   VNPFLYPLCHRRFOKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                           413 INPMCYALCNKAFRDTF-RLLLLCRW 437
                                                                                                                                               225 AS-----GHLHRAGVACRT---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-OCT-2001 (Rel. 40, Last annotation
Muscarinic acetylcholine receptor M1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=87014801; PubMed=3762692;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; X04413; CAA28003.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR; A24325; A24325.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TURNOVER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACM1 PIG
P04761;
                                                                                                                                                                                                                                                                                                                                                                   355
                                                                      175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHRM1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACM1_PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                              셤
                                                                      Š
                                                                                                        셤
                                                                                                                                             ò
                                                                                                                                                                             g
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                              염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                   à
```

```
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
     SO THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE THE PRESENCE TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62 FLVGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SYRAKRT---PRRAALMIGLAWLVSFVLWAPAIL---FWQYLVGERTVLAGQCYIQFLSQP 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5 NSTGILPPRAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | | | : | : | | : | | : | | : | | : | | : | | | : | | | : | | | | : | | | : | | | | : | | | | : | | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | | : | | : | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | | : | : | | : | | : | : | | : | : | | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          175 YILTITMLLEFLLPVISVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187 IITFGTAMAAFYLPVTVMC----TLYWRIYRETENRARELAALQGSETPGKGGGSSSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        243 RSQPGAEGSPETPPGRCCR---CCRAPRLLQAYSWKEEEEEDEGSMESLTSSEGEEP--G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----LRQREYAEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEVVIKMPMVDPEAQAPAKQPPRSSPNTVKRPTRKGRERAGKGQKPRGKEQLAKRKTFSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
     Postsynaptic membrane; Ionic channel; Glycoprotein; Transmembrane; Phosphorylation; Multigene family; G-protein coupled receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84;
                                                                                                                                                                                                                                                                                                                                                                                                CYTOPLASMIC (POTENTIAL)

"LINKED (GLCNAC. .) (PROBABLE)

N-LINKED (GLCNAC. .) (PROBABLE)

BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20.2%; Score *1.,
27.5%; Pred. No. 4.9e-21;
Five 83; Mismatches 154; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PHOSPHORYLATION (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                             4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
5 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                             6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
7 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C025C70EA43BC2AD CRC64;
                                                                                                                                                        EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                    3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSILVSL-------RTHMNSSITAFKVGSFWRSESAA---
                                                                                                          CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
Muscarinic acetylcholine receptor M5.
Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PHOSPHORYLATION PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               531 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----GHLHRAGVACRT-----
                                                                                                                               (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FLYPLCHRRFOKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | | | | :: |: |: |: |: | MCYALCNKAFRDTF-RLLLLCRW 437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   51418 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       451
455
457
                                                                                                                                                                                                        141
164
186
200
366
387
401
421
                                                                                                                                                                                                                                                                                                                                                                                                                                 2
12
178
428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      460 AA;
                                                                                                                                                                                                                                                         165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          451
455
457
                                                                                      25
48
62
63
83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                           TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACMS RAT
                                                                                                             DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
DISULFID
                                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                      RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOD_RES
MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P08911;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RES
                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib.ch).
                                                                                                                                                                                                                                                                                             receptor.";
J. Biol. Chem. 264:7328-7337(1989).
J. Biol. Chem. 264:7328-7337(1989).
-- FUNCTION: THE MUSCARINIC ACETYLCHOLINE RECEPTOR MEDIATES VARIOUS
--- ELLULAR RESPONSES, INCLUDING INHIBITION OF ADENYLATE CYCLASE,
BREAKDOWN OF PHOSPHOINOSITIDES & MODULATION OF POTASSIUM CHANNELS
THROUGH THE ACTION OF G PROTEINS. PRIMARY TRANSDUCING BFFECT IS PI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                  "Molecular cloning and expression of a fifth muscarinic acetylcholine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
Postsynaptic membrane; Ionic channel; Glycoprotein; Transmembrane; Phosphorylation; Multigene family; G-protein coupled receptor.
DOMAIN
                                                                                                                                                                                                                           Barberis C., Birnbaumer M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-LINKED (GLCNAC. ..) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20.0%; Score 410.5; DB 1; Length 531; 24.6%; Pred. No. 8.3e-21;
                                                      MEDLINE-90166521; PubMed-1272174;
Bonner T.I., Young A.C., Brann M.R., Buckley N.J.;
"Cloning and expression of the human and rat m5 muscarinic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CYTOPLASMIC (POTENTIAL).
2 (POTENTIAL).
2 (POTENTIAL).
3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
5 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BY SIMILARITY.
PHOSPHORYLATION (POTENTIAL)
PHOSPHORYLATION (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 647CE0D5D75A2BB1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CYTOPLASMIC
                                                                                                                                                                                                                       Liao C.-F., Themmen A.P.N., Joho R.,
Birnbaumer L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR; JT0531; JT0531.
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7tm_1; 1.
                                                                                                                                                                                                          MEDLINE=89214170; PubMed=2540186;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92;
                                                                                                                            acetylcholine receptor genes.";
Neuron 1:403-410(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60136 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00237; GPCRRHODOPSN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; M22926; AAA40658.1; -. EMBL; M22925; AAA41572.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
500
504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    52
65
103
125
145
1168
213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             442
463
477
497
531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     531 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                      SEQUENCE FROM N.A.
                                         SEQUENCE FROM N.A.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29
53
66
87
104
126
1169
1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      164
                                                                                                                                                                                                                                                                                                                                                                                                                         TURNOVER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
```

```
TRANSMEM
                                                                                                                                                                                                                  FRANSMEM
                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                               DISULFID
                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                         DOMAIN
                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 12
ACM1_RAT
      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its muse by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
VLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIM 130
                213
                                                                                                                                                              247
                                                                                                                                                                                                                  290
                                                                                 201
                                                                                                                             202 YIPVSVMTILYCRIYRETEKRTKDLADLQGSDSVAEAKKREPAQRTLLRSFFSCPRPSLA 261
                                                                                                                                                                             262 QRERNQASWSSRRSTSTTGKTTQATDLSADWEKAEQVTTCSSYPSSEDEAKPTTDPVFQ 321
                                                                                                                                                                                                                                            381
                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                       365
                                                                                                                                                                                                                                                                                                                                 -----OREYAELLRGRKLAR 305
                                                                  131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF
                                                                                                                                                                                                                           322 MVYKSEAKESPGKESNIQETKETVVNIRITENSDYDIPKYFLSPAAAHRLKSGKCVAYKFR
                                                                                                                                                                                                                                                                                    382 LVVKADGTQETNNGCRKVKIMPCSFPVSKDPSTKGPDPNLSHQMTKRKRMVLVKERKAAQ
                                                                                                                                                                                                                                                                                                                306 SLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHR
                                                                                                          ----RALSRCP----
                                                                                                                                                         ----SHAGFSTT--SSSASGHLHRA------GVACRTSNPGLKESA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: THE MUSCARINIC ACETYLCHOLINE RECEPTOR MEDIATES VARIOUS CELLULAR RESPONSES, INCLUDING INHIBITION OF ADENYLATE CYCLASE, BREAKDOWN OF PHOSPHOINOSITIDES & MODULATION OF POTASSIUM CHANNELS THROUGH THE ACTION OF G PROTEINS. PRIMARY TRANSDUCING EFFECT IS PI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. MEDLINE=88296835; PubMed=3402600; Akiba I., Wakof Y., Maeda A., Bujo H., Nakai J., Mishina M., Numa S.; "Primary structure of porcine muscarinic acetylcholine receptor III and antagonist binding studies."; FEBS Lett. 235:257-261(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                           ---ASRHSESPRRKSSILVSLRTHMNSSI--TAFKVGSFWRSESAALR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P11483;
01-0CT-1989 (Rel. 12, Created)
01-0CT-1989 (Rel. 12, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                590 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muscarinic acetylcholine receptor M3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR; S01114; S01114.
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7tm 1; 1.
                                                                                                      LLPVISVAYFNVQIYWSLWKR-
                                                                                                                                                                                                                                                                                                                                                                    366 RFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                     |:| |:| ::|
500 TFRKTF-KLLLLCRW 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X12712; CAA31215.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sus scrofa (Pig)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TURNOVER
                                                                                                      186
                                                                                                                                                                                                           248
                                                                                                                                                                                                                                                               291
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACM3 PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHRM3
                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACM3
                                                  à
                                                                       q
                                                                                                     ò
                                                                                                                             g
                                                                                                                                                                              임
                                                                                                                                                                                                                                  임
                                                                                                                                                       à
                                                                                                                                                                                                           ₹
                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                   à
```

```
131 MNRWALGNLACDLWLSIDYVASNASVMNLLVISFDRYFSITRPLTYRAKRTTKRAGVMIG 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       133 VAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYILTITMLLEFLL 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            :| |:::|:: | || |::|
191 LA-----WVISFILWAPAIL---FWQYFVGKRTVPPGECFIQFLSEPTITFGTAIAAFYM 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---SSITAFKV---- 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REYABLLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWF 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 78 FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          188 PVISVAYFNVQIYWSLWKRRALSRCPSHAGF--STTSSSSASGHLHRAGVACRTSNPGLKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           298 QSLKRSARRKYGRCHFWFTTKSWKPSAEQMDQDHSSSDSWNNNDAAASLENSASSDEEDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358 GSETRAIYSIVLKLPGHSTILNSTKLPSSDNLQVPEEELGTVDLERKASKLQAQKSMDDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            418 GSFQKSFSKLPIQLESAVDTAKASDVNSSVGKTTATLPLSFKEATLAKRFALKTRSQITK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82; Mismatches 136; Indels 161; Gaps
PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
Postsynaptic membrane; Ionic channel; G1ycoprotein; Transmembrane;
Phosphorylation; Multigene family; G-protein coupled receptor.
DOMAIN 67
                                                                                                                                                                                                                                                                                                           7 (POTENTIAL).
CYOPOLASMIC (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL)
N-LINKED (GLCNAC. .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                (GLCNAC. . .) (POTENTIAL)
(GLCNAC. . .) (POTENTIAL)
(GLCNAC. . .) (POTENTIAL)
(GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20.0%; Score 410.5; DB 1; Length 590; 24.8%; Pred. No. 9.1e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSFWRS-----ESAA-----
                                                                                                                                                                                                                      EXTRACELLULAR (POTENTIAL)
                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9998D2A4802FD32A CRC64;
                                                                                                                                                                        3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                     5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------HSES-----
                                                                                                              CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL).
                                                                                              1 (POTENTIAL).
                                                                                                                             2 (POTENTIAL)
                                                                                                                                                                  3 (POTENTIAL)
                                                                                                                                                                                                     4 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-LINKED (GLC)
BY SIMILARITY
                                                                                                                                                                                                                                                                          6 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                 O-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                  N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                       N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352 NSFVNPFLYPLCHRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             536 NSTVNPVCYALCNKTFRTTFKMLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---PRRKSSILVSLRTHMN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66077 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  246 SAASR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           125; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                          68
92
105
126
143
                                                                                                                                                                               165
185
208
223
253
253
514
528
                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
CARBOHYD
                                                                                          PRANSMEM
                                                                                                                                                                PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    478
```

```
BOVIN
                                                                                                                                                                                                                                                                                                                                                            187
                                                                                                                                                                                                                                                                                                                                                                                                           243
                                                                                                                                                                                                                                                                                                                                                                                                                                 259
                                                                                            MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     413
DOMAIN
TRANSMEM
                                                                                                                                           Query Match
Best Local
                                                        DISULFID
                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P41984;
                                              CARBOHYE
                                                                     RES
                                                                               RES
                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACM3_BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHRM3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
                                                                               Ġ,
                                                                     ΨOD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
 g
                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                           à
                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                              THROUGH THE ACTION OF G PROTEINS. PRIMARY TRANSDUCING BFFECT IS PI
                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: THE MUSCARINIC ACETYLCHOLINE RECEPTOR MEDIATES VARIOUS CELLULAR RESPONSES, INCLUDING INHIBITION OF ADENYLATE CYCLASE, BREAKDOWN OF PHOSPHOINOSITIDES & MODULATION OF POTASSIUM CHANNELS
                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSP, P02659; IBOJ.

InterPro; IPR000276; GPCR_Rhodpsn.

InterPro; IPR000276; GPCR_Rhodpsn.

PROSITE; P800237; GPCRHODPSN.

PROSITE; P850262; G_PROTEIN_RECEP_F1_1; 1.

PROSITE; P850262; G_PROTEIN_RECEP_F1_2; 1.

Postsynaptic membrane; Ionic channel; Glycoprotein; Transmembrane; Phosphorylation; Multigene family; G-protein coupled receptor.

DOMAIN

EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                  MEDLINE=92283857; PubMed=1317867; Savarese T.M., Wang C.-D., Fraser C.M.; Salte-directed mutagenesis of the rat m1 muscarinic acetylcholine receptor. Role of conserved cysteines in receptor function."; J. Biol. Chem. 267:11439-11448(1992).
                                                                                                                                                      MEDLINE=87263421; PubMed=3037705;
Bonner T.I., Buckley N.J., Young A.C., Brann M.R.;
"Identification of a family of muscarinic acetylcholine receptor
                                                                                                                                                                                                                                                                                         regulation of cytosolic calcium in a eukaryotic gene expression
                                                                                                                                                                                                                                          MEDLINE=92101806; PubMed=1759615;
Lai U., Smith T.L., Mei L., Irkeda M., Fujiwara Y., Gomez J.,
Halonen M., Roeske W.R., Yamamura H.I.,
"The molecular properties of the MI muscarinic receptor and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
6 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYTOPLASMIC (POTENTIAL)
                       28-FEB-2003 (Rel. 08, Last sequence update)
Muscarinic acetylcholine receptor M1.
CHRM1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3 (POTENTIAL).
   460 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 (POTENTIAL)
                                                                                                                                                                                                                                                                                                             Adv. Exp. Med. Biol. 287:313-330(1991)
                                                                                                                                                                                                                                                                                                                                         MUTAGENESIS OF CYSTEINE RESIDUES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; M16406; AAA40660.1; -. EMBL; S73971; AAB20705.1; -.
                                                                                                                                                                                                          Science 237:527-532(1987).
                                                                                      Rattus norvegicus (Rat).
      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
82
82
121
121
141
164
186
209
366
387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR; A94518; A29514.
                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                       NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25
48
62
83
83
100
1122
1142
1165
1187
2210
2210
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TURNOVER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                          system.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                 denes."
```

```
62 FLVGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IITFGTAMAAFYLPVTVMC----TLYWRIYRETENRARBLAALQGSETPGKGGGSSSSSE 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            225 AS-----GHLHRAGVACRT-----SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RSQPGAEGSPESPPCRCCR---CCRAPRLLQAYSWKEEEEEDEGSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---RTHMNSSITAFKVGSFWRSESA-----ALRQREY 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298 SEVVIKMPMVDSEAQAPTKQPPKSSPNTVKRPTKKG---RDRGGKGQKPRGKEQLAKRKT 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           295 AELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 175 YILTITMLLEFLLPVISVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5 NSTGILPPRAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Bovinae; Bos. MCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 :06
                                                               CYTOPLASMIC (POTENTIAL).

N-LINKED (GLCNAC. ) (PROBABLE)

PLINKED (GLCNAC. .) (PROBABLE)

PROBABLE.

PHOSPHORYLATION (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=94339178; PubMed=8061048;
Lee P.H., Hodges P.K., Glickman F., Chang K.J.;
"Cloning and expression of a cDNA encoding bovine muscarinic
accerylcholine m3 receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20.0%; Score 410; DB 1; Length 460; 27.4%; Pred. No. 7.8e-21; ive 83; Mismatches 151; Indels
                                                                                                                                                                                                                                                                                                      (POTENTIAL). (POTENTIAL). (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                         527573ED8FF7C317 CRC64;
                                                                                                                                                                                                                                                                                                      PHOSPHORYLATION (PHOSPHORYLATION (PHOSPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           590 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochim. Biophys. Acta 1223:151-154(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     UNPFLYPLCHRRFOKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Muscarinic acetylcholine receptor M3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ||| | || : |: | :: | :: | :: | vnPMCYALCNKAFRDTF-RLLLLCRW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last seq
15-MAR-2004 (Rel. 43, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                              51368 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 327-467 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acetylcholine m³ receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 122; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                              12
178
428
451
451
455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bos taurus (Bovine).
                                                                                                                                   2
12
98
428
451
455
457
460 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSILVSL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rissue=Brain;
```

```
Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            [2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=6239;
                                                                    246 SAASR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REVISIONS.
                                                                                                             255
                                                                                                                                                                        118
                                                                                                                                                                                                                                                        536
                                                                                                                                                                                           292
                                                                                                                                                                                                               478
                                                                                                                                                                                                                                    352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Cloning
                                                                                                                                                                                                                                                                                                ACM3_CAEEL
                                                                                                                                                                                                                                                                                    RESULT 14
                                              g
                          ð
                                                                  à
                                                                                      a
                                                                                                           à
                                                                                                                             임
                                                                                                                                                   ò
                                                                                                                                                                   qq
                                                                                                                                                                                          à
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FN-WNFGSGICMFWLITDYLLCTASVXNIVLISYDRYQSVSNAVSYRAQHT----GIMKI 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11
                            -i- FUNCTION: The muscarinic acetylcholine receptor mediates various cellular responses, including inhibition of adenylate cyclase, breakdown of phosphoinositides and modulation of potassium channels through the action of G proteins. Primary transducing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYLLTITMLLEFIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83; Mismatches 134; Indels 161; Gaps
                                                                                SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                     Pfam; PF00001; /tm 1; ...
PRINTS; PR00237; GFCRRHODOPSN.
PROSITE; PS00237; G PROTEIN RECEP FI 1; 1.
PROSITE; PS50262; G PROTEIN TRECEP FI 2; 1.
POSTUBY: PS50262; G PROTEIN CADING! Glycoprotein; Transmembrane; Postuby aptic membrane; Ionic channel; Glycoprotein; Transmembrane; Phosphorylation; Multigene family; G-protein coupled receptor.

67
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 590;
          Sui A.-L., Chou W.-Y., Kao L.-S.;
Submitted (XXX-1994) to the BMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ::
                                                                                                                                                                                                                                                                                                                                  2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                               * (FOIENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                             EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4DE04EDE33CCA8D6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                CYTOPLASMIC (POTENTIAL).
4 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                        CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                             CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (GLCNAC. . .)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GLCNAC. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 -> S (IN REF. 2).
7 -> G (IN REF. 2).
7 -> G (IN REF. 2).
7 -> G (IN REF. 2).
7 -> G (IN REF. 2).
7 -> L (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.1e-20
                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                              (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-LINKED (GLC
BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20.0%; Score 409.5; 25.0%; Pred. No. 1.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-LINKED
N-LINKED
N-LINKED
                                                                                                                                                                                                                PIR; S47572; S47572.
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7tm_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66103 MW;
                                                                                                                                                                                             EMBL; U08286; AAA51866.1; -.
EMBL; L27103; AAA30653.1; -.
                                                                       effect is PI turnover.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 126; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ::
                                                                                                                                                                                                                                                                                                              91
104
125
142
164
                                                                                                                                                                                                                                                                                                                                                                                             252
492
513
527
547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     221
424
438
440
452
461
                                                                                                                                                                                                                                                                                                                                                                                                                                               590
 TISSUE=Adrenal gland;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               467 4
590 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONFLICT
CONFLICT
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        133
                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                              PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
```

```
191 LA-----WVISFILWAPAIL---FWQYFVGKRTVPPGECFIQFLSRPTIITFGTAIAAFYM 242
                                                                          PVISVAYFNVQIYWSLWKRRALSRCPSHAGF--STTSSSASGHLHRAGVACRTSNPGLKE 245
                                                                                                                                                                                                                                                                                                                           357
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GSETRAIYSİVLKİ.PGHSTILNSTKL.PS.DNLQVPEEELGSVGLERKPSKLQTQQSMDDG 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSFOKSFSKLPIQLESAVDTAKASDVNSSVGKTTATLPLSFKEATLAKRFALKTRSQITK 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                 243 PVTIMTI----LYWRIYKETE-KRTKELAGLQASGTEAEAENFVHPTGSSRSCSSYELQQ
                                                                                                                                                                                                                                                                                                       298 QSMKRSARRKYGRCHFWFTTKSWKPSAEQMDQDHSSSDSWNNNDAAASLENSASSDEBDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=Bristol N2;
MEDLINE=20100976; PubMed=10635059;
HWang J.M., Chang D.-J., Kim U.S., Lee Y.-S., Park Y.-S., Kaang B.-K.,
Cho N.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: The muscarinic acetylcholine receptor mediates various cellular responses, including inhibition of ademylate cyclase, breakdown of phosphoinositides and modulation of potassium channels through the action of G proteins. Primary transducing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and functional characterization of a Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     effect is PI turnover.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACM3_CAEEL STANDARD, PRT, 585 AA.
907075, 203X81;
10-0CT-2003 (Rel. 42, Created)
10-0CT-2003 (Rel. 42, Last sequence update)
10-0CT-2003 (Rel. 42, Last sequence update)
Muscarinic acetylcholine receptor gar-3 (G-protein linked acetylcholine receptor 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              McMurray A.A., Mortimore B.J.;
Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Durbin R.;
Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                  ---PRRKSSILVSLRTH---MNS----SITAFKV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NSFVNPFLYPLCHRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 muscarinic acetylcholine receptor.";
Recept. Channels 6:415-424(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               || || || | || :: |: | :| NSTVNPVCYALCNKTFRNTFKMLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSFWRS-----ESAA-
```

OCC OCC SOLUTION STATES STATES SOLUTION

```
CHRM5.
                                              ACMS_HUMAN
                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                       15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---KLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWL 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76 -VLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVA 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                            75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               422 PSVRLSSCEPYLDEPISTRNRSKSDCNSEIDERRHSLLNKQSPFKNGRILKNFSSQERKS
                                                                                                                                                                                                                                                                                                                                                                                                           16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                              135 QMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG-----FVTEWYILTITMLLEFLLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               302 VEDSVTPCTSSRNSKRKSWLRNCTGKSNSSSEDSSEAVAMNLDDTSLSSSHFALSGSRRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----RTHMNSSI-----TAFKVGSFWRSESAALRQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VTIMCILYTRVYWETQKRQKEFGKLQATQFSRRSMKRDVSSTSIIKSSGSMRKKNNQDGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --LSRCPSHAGFSTTSSS-----ASGHLHRAGVACR
                                                                                                                                                                                                                                                                                                                                                                                                                      66 VMIVVIGAMFALVTSLGNLMVMVSFKIDKQLQTISNYFLFSLAVADIAIGVISIEMFTYY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --GLKESAA---SRHSESPRRKSS----ILVSL-----
                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                  BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                             , Pred. No. 1.3e-20;
83; Mismatches 160; Indels 154;
                                                                                                                                                                                                                                                                                                                                                                  Length 585;
                                                                                                                                                                                                                                4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                            CYTOPLASMIC (POTENTIAL).
6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                 0770C89B756F71DC CRC64;
                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QWFNSFVNPFLYPLCHRRFQKAFWKIL-CVTKWPALSQNQ 387
                                                                                                                                                              EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                        1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                               7 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                   Pfam; PF00001; 7tm 1; 1.

PRINTS; PR00237; GPCRRHODOPSN.

PROSITE; PS00237; G PROTEIN RECEP_F1_1; 1.

PROSITE; PS50262; G PROTEIN RECEP_F1_2; 1.

Receptor; G-protein_coupled_receptor; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                  Match 19.9%; Score 408; DB 1; Local Similarity 23.7%; Pred. No. 1.3e-20; Les 123; Conservative 83; Mismatches 160.
                                                                                                                                                                                            (POTENTIAL).
                                                                                                                                                                                                                                                         (POTENTIAL)
email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     189 VISVAYFNVQIYWSLWKRRA-----
                                                          EMBL; AL034391; CAC42272.1; JOINED PIR, T20171; T20171. WORMED PP; Y40H44.1; CE27783. InterPro; IPR000276; GPCR_Rhodpsn.
                                    EMBL; Z81486; CAA22301.2; JOINED.
                                                                                                                                                                                                                                                                                                                                       33 N-
66469 MW;
                   EMBL; AF139093; AAD48771.1; -. EMBL; AL034391; CAA22301.2; -.
                                                                                                                                                               28
33
585 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EYAELLRGR-
                                                                                                                                                       Multigene family.
                                                                                                                                                                          68
102
102
1123
1141
1162
223
223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238 TSNP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               209
                                                                                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                        DOMAIN
TRANSMEM
                                                                                                                                                                                                                           DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                    DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                                                                                                                                      DISULPID
                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                          TRANSMEM
  send
                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
```

q

ò

g

名 名 名 谷

à

g

ð

8 8 8 8

ð

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wang H., Yeomans J.; "Human muscarinic acetylcholine receptor 5 is localized on 15q13.1 and its expression in SH-SYSY cells."; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -i- FUNCTION: The muscarinic acetylcholine receptor mediates various cellular responses, including inhibition of adenylate cyclase, breakdown of phosphoinositides and modulation of potassium channels through the action of G proteins. Primary transducing effect is PI turnover.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Puhl H.L. III, Ikeda S.R., Aronstam R.S.; aclones of human proteins involved in signal transduction sequenced by the Guthrie cDNA resource center (www.cdna.org)."; Submitted (APR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-90166521; PubMed=3272174;
Bonner T.I., Young A.C., Brann M.R., Buckley N.J.;
"Cloning and expression of the human and rat m5 muscarinic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arredondo J., Grando S.A.; "Cloning cholinergic receptors in human keratinocytes."; "Cloning cholinergic receptors in human keratinocytes."; Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
TISSUE=Lens epithelium;
Rae J.L., Shepard A.R.;
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genew; HONC:1954; CHRMS.
MIM; 118496; -.
GO; GO:0005887; C:integral to plasma membrane; TAS.
540 CYINSTINPLCYALCNARFRHTYMRILKCKFKAERPTMNQ
                                                                                                                                                                                                                              ACMS HUMAN STANDARD; PRT; 532 AA. P08912; Q96RG7; 01-NOV-1988 (Rel. 09, Created) 01-UN-1994 (Rel. 29, Last sequence update) 15-WAR-2004 (Rel. 43, Last annotation update) Muscarinic acetylcholine receptor M5.
                                                                                                                                                                                                                          Ā
                                                                                                                                                                                                                          532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 1-526 FROM N.A.
TISSUE=Epidermal keratinocytes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          acetylcholine receptor genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL, AF026263; AAB95158.1; -. EMBL, AAB084282; BAB91222.1; -. EMBL, AF499919; AAM18942.1; -. EMBL, AF38591; AAK68116.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M80333; AAA51569.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Neuron 1:403-410(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Brain;
```

```
15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76 VLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYOSVSNAVSYRAQHT----GIM 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO; GO:0004981; F:muscarinic acetylcholine receptor activity; TAS.
GO; GO:0007213; P:acetyl choline receptor signaling, muscarin. .; TAS.
GO; GO:0007203; P:ecal proliferation; TAS.
GO; GO:0007197; P:muscarinic acetyl choline receptor, adenyla. .; TAS.
GO; GO:0007203; P:phosphatidylinositol-4,5-bisphosphate hydro. .; TAS.
FAM: PRO0001; 7tm 1; 1.
PRINTS; PR00237; GPCRHODOPSN.
PROSITE: PS00237; GPROTEIN RECEP F1 1; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 1; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 2; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 1; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 1; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 2; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
PROSITE: PS00237; GPROTEIN RECEP F1 3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   203 YIPVSVWTILYCRÍYRETEKRTKDLADLÓGSDSVTKAEKRRPAHRALFRSCLRCPRPTLA 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---RALSRCP---- 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              214 ----SHAGFSTT--SSSASGHLHRAG------VACRT-----SNPGLK 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          263 QRERNQASWSSSRRSTSTTGKPSQATGPSANWAKAEQLITCSSYPSSEDEDKPATDPVLQ 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SLAILLSAFAICWAPYCLFTIVLSTYPRIERPKSVWYSIAFWLQWFNSFVNPFLYPLCHR 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----QREYAELLRGRKLAR 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19.8%; Score 404.5; DB 1; Length 532; 24.6%; Pred. No. 2.16-20; ive 91; Mismatches 141; Indels 141; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383 LVVKADGNQETNNGCHKVKIMPCPFPVAKEPSTKGLNPNPSHQMTKRKRVVLVKERKAAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

2 (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

3 (POTENTIAL).

4 (POTENTIAL).

EXTRACELLULAR (POTENTIAL).

5 (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

5 (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

6 (POTENTIAL).

5 (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

6 (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      245 ESAASRHSESPRRKSSILVSLRTHMNSSI--TAFKVGSFWRGESAALR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PHOSPHORYLATION (POTENTIAL) PHOSPHORYLATION (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -> P (IN REF. 5).
EE846186F645DD9B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     186 LLPVISVAYFNVQIYWSLWKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60073 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         366 RFOKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 24.6*
Matches 122; Conservative
                                                                                                                                                                                                                                                        53
66
87
104
126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             183
501
505
                                                                                                                                                                                                                                                                          54
67
88
                                                                                                                                                                                                                                  DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                      FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
```

|:| |:| ::| 501 TFRKTF-KMLLLCRW 514

Search completed: October 1, 2004, 10:11:50 Job time : 17 secs

This Page Blank (uspto)

```
PRINTS; PR00237; GFCRRHODOPSN.
PRINTS; PR01726; HISTAMINEH4R.
PROSITE; PS00237; G_PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G_PROTEIN RECEP_F1_2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 391 AA; 44248 MW; S9EC73CB5214C5E0 CRC6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S X R R R R R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q961d9 homo sapien
Q981d9 tous scrofa
Q91zy3 cavia porce
Q865el macaca mula
Q8wy01 homo sapien
Q8wy01 homo sapien
Q8wy00 homo sapien
Q8hi49 homo sapien
Q8hi49 homo sapien
Q8yb24 cavia porce
Q96xh1 homo sapien
Q8by124 cavia porce
Q8by126 cavia porce
Q8by126 cavia porce
Q8by126 cavia porce
Q8by126 cavia porce
Q8by126 cavia porce
Q8by126 cavia porce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q91zy2 mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q91zyl rattus norv
Q961d9 homo sapien
                                                                  ; Search time 44 Seconds (without alignments)
2803.809 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                    1 MSESNSTGILPPAAQVPLAF......WKILCVTKWPALSQNQSVSS
                                                                                                                                                                                                                         1017041
GenCore version 5.1.6
(c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                              1017041 seqs, 315518202 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                          - protein search, using sw model
                                                                  1, 2004, 10:06:02
                                                                                                                                                                                                                                                                                                    summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q91ZY2
Q91ZY1
Q96LD9
Q8WNV9
Q91ZY3
Q865E1
Q8WXC1
Q8WXC0
Q8WXC0
Q8WYO0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8VH26
Q8IVW0
                                                                                                                                                           BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8VH24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8BJN3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q7T286
                                                                                                                                                                                                                                                                                                                         sp_archea:*
sp_archea:*
sp_bacceria:*
sp_fungi:*
sp_fungi:*
sp_human:*
sp_invertebrate:*
sp_mammal:*
sp_mammal:*
sp_mammal:*
sp_mbc:*
sp_nhage:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sp_unclassified:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sp_vertebrate:*
                                                                                                                                                                                                                                                                            Minimum Match 0%
Maximum Match 100%
Listing first 45 st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sp_rvirus:*
sp_bacteriap:*
                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                           sp_plant: *
sp_rodent: *
sp_virus: *
                                                                                                              US-10-626-445-8
2048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length DB
         Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     454
460
587
532
532
                                                                                                                                                                                                                                                                                                                           SPTREMBL
                                                                  October
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6:
77:
77:
10:
110:
113:
114:
115:
                                                                                                                                                                                                                                                                             Post-processing:
                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2035
1745
1372.5
1311.5
1238
718.8
665.5
665.5
492.5
415.5
                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               410
410
406.5
406
                                         OM protein
                                                                                                                                      Sequence:
                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                          Database
                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Result
```

17 405.5 19.8 200 4 Q8NI50 20 4058.59 19.8 405 19.8 458 11 Q9NI50 20 20 400.5 19.6 258 11 Q9NI50 20 20 20 20 20 20 20	Q8ni50 homo sapien Q8vb28 cavia porce Q96rg9 homo sapien Q9ptf6 gallus gall Q920h4 mus musculu Q9myi8 oryctolagus Q8mkj0 cebus apell Q91v49 rattus norv Q865e3 canis famil Q9ttm9 sus scrofa Q8cgi5 mus musculu Q9n2b1 gorilla gor Q9n2b1 gorilla gor Q9n2b1 gorilla gor Q9n2b1 gorilla gor Q9n2b1 gorilla gor Q9n2b1 mus musculu Q91v6 rattus norv Q801p2 pan troglod Q9n2b2 pan troglod Q9n2b2 pan troglod Q9n2b2 cavia porce Q9my17 rattus sp.		; 391 AA. ed) sequence update) annotation update)	Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.	.W.; uinea p ";	Genbank/DDBJ databases. L MEWBRANE PROTEIN (BY SIMILARITY). 1 OF G-PROTEIN COUPLED RECEPTORS.	membrane; IC. IDA. activity; IDA.
17 405.5 19.8 200 4 18 402.5 19.8 458 11 29 402.5 19.7 564 4 20 21 401.5 19.6 528 13 22 393.5 19.2 518 6 23 392.5 19.2 518 6 24 393.5 19.2 518 6 25 390.5 19.1 147 6 28 389.5 19.0 487 6 39 389.5 19.0 487 6 31 389.5 19.0 487 6 31 389.5 19.0 487 6 32 389.5 19.0 487 6 33 388.5 18.9 488 11 33 388.5 18.9 487 6 34 389.5 19.0 487 6 35 389.5 19.0 487 6 36 389.5 19.0 487 6 37 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 31 389.5 19.0 487 6 32 389.5 19.0 487 6 34 389.5 19.0 487 6 34 388.5 18.9 487 6 35 389.5 19.0 487 6 36 389.5 19.0 487 6 37 389.5 18.9 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 389.5 19.0 487 6 38 38 5 18.9 487 6 31 38 5 18.9 487 6 31 38 5 18 6 456 4 42 376.5 18.4 422 5 44 376.5 18.4 422 5 45 376.5 18.4 422 5 47 376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4 422 5 48 4376.5 18.4	8N150 Q8H128 96RG9 Q92PFF Q92PFF Q92PFF Q920H4 9MX18 8MX0 Q91V4 9MX18 9N2B1 9N2B1 9N2B1 9N2B1 9N2B1 9N2B2 Q91V6 Q9	ALIGNMENTS	PRT; eated) ist segu	Craniat Sciurog	venberg at, and ariatio	BL/GenB GRAL ME ILY 1 O	ction; ceptor psn. H4.
DS:17.2.1	4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		9,9,0	data; ntia;	C., Lo use, r cies v	the EM : INTE TO FAM :1;	al to ne fra ine re- R Rhodj tamine
DS:17.2.1	24 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	4415 4515 4611 4610 422	INARY; Lrel. Lrel. Lrel.	e). ; Chor ; Rode	Kuei an, mo al spe	1) to CATION LONGS ' K97380 Hrb4.	integran nembran nistam 5; GPCI 2; Hist
DS:17.2.1	11111111111111111111111111111111111111	1188.6 1188.6 1188.6 18.5 18.4		(Mous letazoa theria 0090;	c; on S., of hum stanti	AR-200 LAR LO TY: BE 59; AA: 9635;]	87; C:: 24; C:: 69; F:: R00027 R00810; R0810; 1; 7tm
DS:17.2.1	· · · · · · · · · · · · · · · · · · ·	<i>ოო ოო</i>	13 912Y2 912Y2; 1-DEC-2001 1-OCT-2003 istamine H4	fus musculus tukaryota; M lammalia; Eu ICBI_TaxID=1 1]	TRAIN=BALB/ iu C., Wils Comparison uggests sub	ubmitted (M !- SUBCELLU !- SIMILARI MBL; AF3588 GD; MGI:242	0, GO:00058 0, GO:00056 0, GO:00049 nterPro, IPI nterPro, IPI fam; PF00001 RINTS; PR003
	ପ୍ରପ୍ରପ୍ରପ୍ରପ୍ରପ୍ରପ୍ରପ୍ରପ୍ରସ୍ତି କିନ୍ ରିକି	चित्रं चे चे चे चे	SUL				

99.4%; Score 2035; DB 11; Length 391; 99.7%; Pred. No. 1.7e-169; 59EC73CB5214C5E0 CRC64;

240 240 300 300 360

180 180

us-10-626-445-8.rspt

Н

d ò

Matches

61 61 121

ρp

181 181 241

 δ

q ò g δ g ð g

121

Db

ò

301 301 361

RESULT 2

241

```
DELVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                 duyen T. George S.R., Lee D.K., Cheng R., Lynch K.R., O'Dowd B.F.;

Nguyen T., George S.R., Lee D.K., Cheng R., Lynch K.R., O'Dowd B.F.;

"Discovery of H4, a Novel Histamine Receptor."; databases.

"La Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.

"I Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.

"I SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).

"I SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN COUPLED RECEPTORS.

"EMBL, AY008280; AAL02997.1; -

"EMBL, AY008280; AAL02997.1; -

"A GO; GO:001681; F:receptor activity; IEA.

"GO; GO:001681; F:receptor activity; IEA.

"GO; GO:001881; F:receptor activity; IEA.

"GO; GO:001881; F:rhodopsin-like receptor activity; IEA.

"GO; GO:001881; F:rhodopsin-like receptor protein signalin. . .; IEA.

"I HerPro; IPR00012; Histamine_H4.

"I HerPro; IPR00013; Tem 1; Tum 1.

"I PROJUTE; PR00023; GPCRHODOPSN.

"RINTS; PR00023; GPCRHODOPSN.

"RINTS; PR00021; Trans.
"RINTS; PR00123; GPROTEIN RECEP FI 1; 1.

"PROSITE; PS00223; GPROTEIN RECEP FI 2; 1.

"PROSITE; PS00223; GPROTEIN RECEP FI 2; 1.

"PROSITE; PS00223; GPROTEIN RECEP FI 2; 1.

"PROSITE; PS00223; GPROTEIN RECEP FI 2; 1.

"PROSITE; PS00224; GPROTEIN RECEP FI 2; 1.

"PROSITE; PS00224; GPROTEIN RECEP FI 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 DFFVGVISIPLYIPHILFEWDFGKEICVFWLITDYLLCTASVYNIVLISYDRYLSVSNAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                   MLLEFLL PVI SVAYFNVQ I YWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                     PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                   RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
1 MSESNGTDVLPLTAQVPLAFLMSLLAFAITIGNAVVILAFVADRNLRHRSNYFFLNLAIS
                                                                121 SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            81; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     67.0%; Score 1372.5; DB 4.68.1%; Pred. No. 1.3e-111; iive 41; Mismatches 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PLCHRRFQKAFWKILCVTKQPAPSQTQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PLCHRRFQKAFWKILCVTKWPALSQNQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19,
19,
24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 68.1
Matches 267; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-2001 (TrEMBLrel. 01-JUN-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Histamine receptor H4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                    241
                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     096LD9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q96LD9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                      q
                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                          셤
                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                    ò
                                                 à
                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CSTRAIN-Sprague-Dawley;
CA Liu C., Wilson S., Kuei C., Lovenberg T.W.;
Liu C., Wilson S., Kuei C., Lovenberg T.W.;
Liu C., Wilson S., Kuei C., Lovenberg T.W.;
Liu C., Wilson S., Kuei C., Lovenberg T.W.;
The suggests substantial species variation.";
Submitted (MAR-2011) to the EMBL/GenBank/DDBJ databases.

L. SUBCELLUIAR LOCATION: INTEGRAL MEMBRAN PROTEIN (BY SIMILARITY).
S. SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

EMBL; AF358860; AAK97381.1;
C. -: SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

R GO; GO:00016021; Cintegral to membrane; IEA.

GO; GO:0001584; F:receptor activity; IEA.

GO; GO:000186; P:c-protein coupled receptor protein signalin...; IEA.

BR InterPro; IPR008102; Histamine_H4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
               ö
                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09
                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                        9
                                                                                               09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MSESNSTGIL PPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                      SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                  MLEFELEVISVAYFNVQIYWSLWKRALSRCPSHAGFSTTSSSASGHLHRAGVACRISN
                                                                                                                                                                                                                                                                                                                                                                                      PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                       PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSBSAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                          MSESNSTGILPPAAQVPLAFIMSSFAFAIMVGNAVVILAFVVDRNIRHRSNYFFLNLAIS
                                                                                                                                        DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                DELVGLISIPLYIPHVLENWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV
                                                                                                                                                                                                                                                                                                          MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                 .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
               1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50267; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 391 AA; 44023 MW; C707BA6E39CFED41 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85.2%; Score 1745; DB 11;
84.9%; Pred. No. 3.6e-144;
ive 17; Mismatches 42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 PLCHRRFOKAFWKILCVTKOPALSONOSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ą
                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                     .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01726; HISTAMINEH4R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Histamine H4 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 332; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10116;
                     390;
```

'n

Gape

٠<u>.</u>

Length 390;

120

à

9

m

q ò 셤 à g à DD DD à

```
61 DFLVGLISIPLYIPHVLENWNFGSGICMFWLITDYLLCTASVXNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MILLEFILLPVISVAYFNVQIYWSLWKRRALSRCPSHAGF-STTSSSASGHLHRAGVACRTS 239
ITMLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRT
                   SNPGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELL
                                                                                         239 SLSDPKEAAASLHSERPRRKSTLWFSLRTRM-SSLTASNKGFLSHSDSLAIHQKEHLELL
                                                                                                                                   RGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPF
                                                                                                                                                                       RARKLARSLAILLGVFAICWAPYSLLTITRSVYPTNPFPSTAVYKFAFWLOWFNSCVNPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120 WYRAQHSGTWKIATQMVAVWIFSFMTNGPMILISDSWQNSTT.-ECEPGFLKKWYFALPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178 SLLEFLIPILLVAYFSAHIYWSLWKREKLSRCLSHPVLPSDSSSSDHGHSCRQDPDSRAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4;
                                                                                                                                                                                                                                                                                                                                                                                                                                      cavia poscestius (curine pry).
Eukaryota: Metazoa, Chordata; Craniata; Vertebrata; Buteleost
Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 11; Length 389;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60.4%; Score 1238; DB 11; Length 62.5%; Pred. No. 7e-100; ive 43; Mismatches 100; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PRO023; GPCRHODOPSN.
PRINTS; PR01726; HISTAMINEH4R.
PROSITE: PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS02625; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 389 AA; 44511 MW; 51AF32FD6F1C3E4F CRC64;
                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation update)
                                                                                                                                                                                                       LYPLCHRRFOKAFWKILCVTKWPALSQNQSVSS 391
                                                                                                                                                                                                                                       LYPLCHKRFOKAFLKIFCLKKOSTLSHNRSTSS 390
                                                                                                                                                                                                                                                                                                                              ġ
                                                                                                                                                                                                                                                                                                                                                             Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                pig)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity oz...
                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                               Cavia porcellus (Guinea
                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                         Q91ZY3;
01-DEC-2001 (TYEMBLrel.
01-DEC-2001 (TYEMBLrel.
01-UUN-2003 (TYEMBLrel.
Histamine H4 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10141;
                                                                 239
                                                                                                                                                                     298
                                                                                                                                                                                                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                         Q912Y3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                          a
                          dd
                                                                à
                                                                                              d
                                                                                                                                  ò
                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 슝
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
              180
                                                                                240
                                                                                                                                                                   239 SASTEVPASFHSERQRRKSSLMFSSRTKWNSNTIASKWGSFSQSDSVALHQREHVELLRA 298
                                                                                                                                                                                                                                                       358
                                                                                                 241 PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG 300
                                                                                                                                                                                                                RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59 ISDFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSN 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 ISDFFVGVISIPLYIPHTLFKWKLEDNICAFWLIIDYLLCTASVYNIVLISFDRYQSVSN 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      119 AVSYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . .; IEA.
                          oda T., Morizawa N., Saito Y., Masuho Y., Matsumoto S.;
"CDNA cloning and characterization of porcine histamine H4 receptor.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
          SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNIKDCEPGFVTEWYILTII
                                                                          MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                    1 MSESN--STGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euteleostomi;
Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL, AB053300; BASS0781.; Continuous to Grantella Continuous Continuous Abortanous, AB053300; BASS0781.; Contegral to membrane, IEA.
GO; GO:0004894; F:receptor activity; IEA.
GO; GO:0007186; F:receptor activity; IEA.
InterPro; IPR000276; GPCR Rhodpsn.
InterPro; IPR008102; Histamine_H4.
PF00001; 7tm_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 6; Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE, PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE, PS50262; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 390 AA; 44483 MW; BC8FD363A6F44D3F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata, Craniata, Vertebrata,
Cetartiodactyla, Suina, Suidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64.0%; Score 1311.5; DB 6;
65.9%; Pred. No. 2.7e-106;
ive 33; Mismatches 96;
                                                                                                                                                                                                                                                                                                         PLCHKRFQKAFLKIFCIKKQPLPSQHSRSVSS 390
                                                                                                                                                                                                                                                                                    PLCHRRFOKAFWKILCVTKWPALSQ-NQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Butheria; Cetartiodz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01726; HISTAMINEH4R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Histamine H4 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAR-2002
01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         259;
        121
                                                                                                                                                                                                                                                  299
                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                      6VNW80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                    RESULT
Q8WNV9
```

a ò 셤 ò

9 29 240 NPGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLR 299

g ò

ò

```
78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELL-RGRKLARSLAIL 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --GCW-----GCWQKGHGBAMPLHRKVAKSLAVI 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          191
                                                                                       APYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKAFWKILCVT 378
                                                                                                                           VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VAYENVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLXIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTFFLS
TISSUE-Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Weiner D.M.;
"Molecular Cloning and Characterization of Functionally Distinct Isoforms of the Human Histamine H3 Receptor.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF321911; AAL71912.1; - membrane; IEA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0004872; F:neceptor activity; IEA.
GO; GO:0001584; F:nthodopsin-like receptor activity; IEA.
GO; GO:0001586; P:G-preceptor activity; IEA.
INTERPRECEDIT (FROMODZE) GPR. Receptor INTERPRECEDIT (FROMODZE) GPR. Receptor INTERPRECEDIT (FROMODZE) GPR. Receptor InterPro; IPR0003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    32.5%; Score 665.5; DB 4; Length 365; 40.1%; Pred. No. 6.7e-50; ive 46; Mismatches 114; Indels 61.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homoo saplens (Human).
Eukarjota Metazoa; Chordata; Craniata; Vertebrata; Butele
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40609 MW; D78B32042464CB35 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                    365 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00001; 7tm 1; 1.

PRINTS; PR01237; GFCRRHODOPSN.

PRINTS; PR01471; HISTAMINEH3R.

PROSTITS; PS01237; G PROTEIN RECEP F1 1; 1.

PROSITE; PSS0262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Histamine H3 receptor isoform 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TrEMBLrel. 20, TrEMBLrel. 20, (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      365 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           253 PPPP-
                                                                                                                                                                                                                      K 379
                                                                                                                                                                                                                                                                         K 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2002 (
01-MAR-2002 (
01-OCT-2003 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           214
                                                                                                   319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              252
                                                                                                                                                                                                                      379
                                                                                                                                                                                                                                                                            431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                             319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                          Q8WY01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ношо
                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                  08WY01
                                                                                                                                                                                                                                                                                                                                                                                                                          DDT TO DDT TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD TO DD T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                   à
                                                                                                                                                          엄
                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         268 HMNSSITAFKVGSFWRSESAALRQR-----EYAELLRGRKGARSLAILLSAFAICW 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96
                                                                                                      GRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                157 LLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -WSLWKRRALSRCPSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VTFFNLS1YLNIQRRTRLRLDGAREAGGPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----AGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRHSESPRRKSSILVSLRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
               298 ARKLAKSLAILLAAFAICWAPYSLTTVIYSFFPERNLTKSTWYHTAFWLQWFNSFVNPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. YAO B.B., Sharma R., Cassar S., Esbenshade T.A., Hancock A.A.; Yao B.B., Sharma and Pharmacological Characterization of the Monkey Histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Macaca mulatta (Rhesus macaque).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E79440A4EC09CA8C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 35.1%; Score 718.5; DB 6; Best Local Similarity 38.7%; Pred. No. 2e-54; Matches 163; Conservative 52; Mismatches 121;
                                                                                                                                                                                                                                                                   YPLCHRRFQKAFWKILCVTKWPALSQNQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00237; G PROTEIN RECEP_F1_1; 1.
PROSITE; PS50262; G PROTEIN RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 445 AA; 48591 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TrEMBLrel. 24, C
(TrEMBLrel. 24, I
(TrEMBLrel. 25, I
                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VAYENVQIY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cercopithecinae; Macaca.
NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Histamine receptor H3. HRH3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          L-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JUN-2003
01-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     H3 Receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37
                                                                                                                                                                                                                                  360
                                                      238
                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                      0865E1
                                                                                                                                                                                                                                                                                                                                                                             ø
                                                                                                                                                                                                                                                                                                                                                                       RESULT CASE SEL CONTROL OF CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CASE SEL CAS
```

8

g

à

ò 셤 δ g à g $\overset{\circ}{\circ}$ d ò us-10-626-445-8.rspt

```
à
                                                                      qq
                                                                                                                                                                                        ACM DER PLANTER PROPERTY OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STANTANTS OF STA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
311 LSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKA 370
                             78 F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252 SESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELL-RGRKLARSLAIL 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                137 VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               311 LSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHRRFQKA 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  192 VAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSNPGLKESAASRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157 LLVWVLAFILYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----RLDGAREAAGPEPPFEAQPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.

BMBL; AF31914; AAL71914-1; -

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0004969; F:integral to membrane; IEA.

GO; GO:0004812; F:receptor activity; IEA.

GO; GO:0001584; F:receptor activity; IEA.

GO; GO:0001586; F:receptor activity; IEA.

GO; GO:0001586; F:receptor activity; IEA.

InterPro; IPR000276; GPCR_Rhodpsn.

InterPro; IPR000276; GPCR_Rhodpsn.

InterPro; IPR000276; GPCR_Rhodpsn.
                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Weiner D.M.;
"Molecular Cloning and Characterization of Functionally Distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32.5%; Score 665.5; DB 4; Length 373; 40.1%; Pred. No. 6.9e-50; Live 46; Mismatches 114; Indels 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         373 AA; 41570 MW; FAE9DFC5C3AF4DE9 CRC64;
                                                                                                                                                                                                                                                                                   373 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEAM; PP00001; 7tm 1, 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             214 VTFFNLSIYLNIQRRTRL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148; Conservative
                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                        371 FWKILCVTK 379
                                                                                                                                 FTKLLCPQK 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Hippocampus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                 343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                        Q8WXZ9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                               RESULT 8
                                                                                                                                                                                                                        28WXZ9
                                                                                      ð
                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
```

```
F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    137 VAVWILAFLVNGPMILASDSWK----NSTNTKDCEPGFVTEWYLLTITMLLEFLLPVIS 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    157 LLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,
Weiner D.M.;
                                                                                                                                                                                                                                                                                                                                                                         Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Molecular Cloning and Characterization of Functionally Distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isoforms of the Human Histanine H3 Receptor.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
BMB1, PR3219212, AML71931.;
GO: GO:0004969; F: Histamine receptor activity; IEA.
GO: GO:0004969; F: Friedeptor activity; IEA.
GO: GO:0004986; F: Proceptor activity; IEA.
GO: GO:0001884; F: Proceptor activity; IEA.
GO: GO:0001886; F: Proceptor activity; IEA.
GO: GO:0001886; F: Proceptor activity; IEA.
InterPro; IPR00276; GPCR_Rhodpsn.
InterPro; IPR003896; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24.0%; Score 492.5; DB 4; Length 301; 50.5%; Pred. No. 6.9e-35; live 30; Mismatches 59; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33280 MW; EE740A2E0AB93CC9 CRC64;
                                                                                                                                                                                                                                           01-WAR-2002 (TrEMBLrel. 20, Last sequence update) 01-OCT-2003 (TrEMBLrel. 25, Last annotation update) Histamine H3 receptor isoform 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Histamine H3 receptor isoform 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            309 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
                                                                                                                                                                                                                              Created)
                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       192 VAYFNVQIYWSLWKRRAL 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | :||: || :: | |
214 VTFFNLSIYLNIQRRTRL 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                         01-MAR-2002 (TrEMBLrel. 20,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 50.5%
Matches 100; Conservative
                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
371 FWKILCVTK 379
                                               343 FTKLLCPOK 351
                                                                                                                                                                                                                                                                                                                                                    (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                    Q8WY00;
                                                                                                                                                                          Q8WY00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OBNI49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8N149
                                                                                                                           RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 10
                                                                                                                                                     Q8WY00
```

```
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          291
                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         096RH1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q96RH1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHRM1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 296RH1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ..
m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77
                                                                                                                                                                                                                                                                                                                                                        .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Five subtypes of muscarinic receptors are expressed in gastric smooth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VAVWILAFLVNGPMILASDSWK-----NSTNTKDCEPGFVTEWYILTITMLLEFLLPVIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18 LAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHTGIMKIVAQM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLVWVLAFLLYGPAIL---SWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         muscles of guinea pig.";
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELIULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
EMBL, AV072062; AAL6791.1;
-GO, GO:0016021; C:integral to membrane; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euteleostomi;
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Choi K.
                                                                                                                                                                                        and Characterization of Functionally Distinct
                                                                                                                                  TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.
                                                                                                                                                                                                                                                 Weutoplantancology 4:189.12.

EMBL; AF34604; AAM3829.13.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:00046969; F:interamine receptor activity; IEA.

GO; GO:0004872; F:receptor activity; IEA.

GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.

GO; GO:0001586; F:rhodopsin-like receptor protein signalin.

InterPro; IPR002396; GPCR Rhodopsn.

InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cavia porcellus (Guinea pig).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleosto
Mammalia, Eutheria, Rodentia, Hystricognathi, Caviidae, Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4; Length 309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. So I., Yang D., Kim H., Min K., Kim S., Kim K., Park K., Kim I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24.0%; Score 492.5; DB 4; Length 50.5%; Pred. No. 7.1e-35; ive 30; Mismatches 59; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B7496F7D1D2A206B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                            "Molecular Cloning and Characterization of Fur
Isoforms of the Human Histamine H3 Receptor.";
Neuropharmacology 0:0-0(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                530 AA
                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODPSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G-PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VAYENVQIYWSLWKRRAL 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                309 AA; 34242 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | :||: || :: :| |
VTFFNLSIYLNIQRRTRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20,
20,
24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Muscarinic receptor 5.
          Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10141;
                                                                                                               FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-2003
                                                                                                                                                                             Weiner D.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUÊNCE
                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8VH24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QBVH24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GPM5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THE REPORT OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            쉼
          à
```

```
16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               76 VLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIM 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----ACRTSNPGLK 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                263 QRERSQASWSSSRKSTSTSGTPSQATGHSAHWAKVGQLATGSRYPVPEDBAQPPADPVFQ 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AVYNSQAKESPREELSAKEAKEKAVKAQREKTDYDIPKYFLSPAAHRLKSQKCVAYKFQ 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----OREYAELLRGRKLAR 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : | :: | | :: | | 1: IVVKADGTQETNNGCRKVKIMPCSFPVSKGTPSKGLEPNLSHQMTKRKRMVLVKERKAAQ 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLYPLCHR 365
                                                                                                                                                                                                                                                                                                                                                                                                                  75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90
                                                   .; IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       203 YVPVSVMTILYCRİYRETEKRTKDLAELQGSDSVAEAAKRRPAPRALLRSCFSCPHPTLV
                                                                                                                                                                                                                                                                                                                                                                                                               16 VPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arredondo J., Grando S.A.; "Cloning Cholinergic Receptors in Human Keratinocytes."; Submitted (MAY-2001) to the EMBL/GenBank/DBN databases. "- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY). - SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS. EMBL; AF385597; AAK68112.1; ---
                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -CP-
                                                                                                                                                                                                                                                                                                    20.3%; Score 415.5; DB 11; Length 530; 25.9%; Pred. No. 7.2e-28; tive 86; Mismatches 140; Indels 141;
GO; GO:0004872; F:receptor activity; IEA.
GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin.
InterPro; IPR00276; GPCR_Rhodpsn.
Pfam; PF00001; 7cm 1; 1.
PRINTS; PR00237; GPCRHODOPSN.
PROSITE; PS00237; GPCRHODOPSN.
PROSITE; PS50262; GPROTEIN RECEP_F1_1; 1.
PROSITE; PS50262; GPROTEIN RECEP_F1_2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 530 AA; 59538 MW; 22CGD68BFADICDAB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----RALSR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESAASRHSESPRRKSSILVSLRTHMNS--SITAFKVGSFWRSESAALR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TrEMBLrel. 19, Last sequence update) (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----SHAGFST-----TSSSASGH-LHRAGV----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last seq
01-UTN-2003 (TrEMBLrel. 24, Last ann
MI muscarinic cholinergic receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         186 LLPVISVAYFNVQIYWSLWKR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      501 TFRKTF-KMLLLCRW 514
                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 25.9%
Matches 128; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Human)
```

_

```
NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2003
                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kim I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08VH26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q8VH26
                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8VH26
            g
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                            19;
                                                                                                                                                                                                                                                                  FLVGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                  174
                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                           225 AS-----GHLHRAGVACRT-----SNPGLKESAASRHSBSPRRK 258
                                                                                                                                                                                                                                                                                                                                                                               224
                                                                                                                                                                                                                                                                                                                                                                                                                                                    243 RŚOPGAEGSPETPPGRCCR---CCRAPRLLQAYSWKEEEEEDEGSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298 SEVVIKMPMVDPEAQAPIKQPPRSSPNTVKRPIKKG---RDRAGKGQKPRGKEQLAKRKI 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 295 AELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSF 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   412
                                                                                                                                                                                                                      61
                                                                                                                                                                                                                               · IEA
                                                                                                                                                                                                               5 NSTGILPPAAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                       175 YILTITMILEFILPVISVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS
                                                                                                                                                                                                                                                                                                                                                                                         The FANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team,
the RIKEN Genome Exploration Research Group Phase I & II Team,
"Analysis of the mouse transcriptome based on functional annotation of
60,770 full-length cDNAs.";
Nature 420:563-573(202).
EMBL; AKO81248; BAC38175.1;
MGD; MGI:88396; Chrml.
                                                                                                                                                                                                                                                                                                                    SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -RTHMNSSITAFKVGSFWRSESA-----ALRQREY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus Muscatus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus
GO: GO:0016021, C:integral to membrane; IEA.
GO: GO:0004892; F:receptor activity; IEA.
GO: GO:0001884; F:rhodopsin-like receptor activity; IEA.
GO: GO:000186; P:C-protein coupled receptor protein signalin.
InterPro; IPR000276; GPCR Rhodosn.
Pfam; PF00001, 7tm 1; 1.
PRINTS; PR00237; GPCRHODOPSN.
PROSITE; PS00237; GPCRHODOPSN.
PROSITE; PS50262; G—PROTEIN_RECEP_F1 1; 1.
PROSITE; PS50262; G—PROTEIN_RECEP_F1 2; 1.
G—PROMING RECEP F1 2; 1.
                                                                                                                                                         Ouery Match
20.2%; Score 413; DB 4; Length 454;
Best Local Similarity 27.4%; Pred. No. 9.9e-28;
Matches 122; Conservative 84; Mismatches 150; Indels
                                                                                                                                   68D02A29898C8D92 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  460 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     355 UNPFLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2003 (TrEMBLrel. 23, Created) 01-MAR-2003 (TrEMBLrel. 23, Last sequel-OCT-2003 (TrEMBLrel. 25, Last ann Muscarinic acetylcholine receptor MI CHRMI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=C57BL/6J; TISSUE=Striatum; MEDLINE=22354683; PubMed=12466851;
                                                                                                                                     454 AA; 50748 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               259 SSILVSL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q8BJN3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8BJN3
  d
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
62 FLVGLISIPLYIPHVLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                 225 AS-----GHLHRAGVACRT-----SNPGLKESAASRHSESPRRK 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYRAQHTGIMKIVAQMVAV-WILAFLVNGPMILASDSWKNSTNTK-----DCEPGFVTEW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       175 YILTIIMLLEFLLPVISVAYFNVQIYWSLWKR-----RAL----SRCPSHAGFSTTSSS 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243 RSQPGAEGSPESPPGRCCR---CCRAPRLLQAYSWKEEEEEDBGSMESLTSSEGEEP--G 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---ALRQREY 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12 NITVLAPGKGPWQVAFIGITIGLLSLATVIGNLIVLISFKVNTELKTVNNYFLLSLACAD 71
                                                                                                                                                                                                                                                                                         NSTGILPPAAQVPLAFL---MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187 IITFGTAMAAFYLPVTVMC----TLYWRIYRETENRARELAALQGSETPGKGGGSSSSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      295 ABILIRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298 SEVVIKMPMVDPEAQAPTKQPPKSSPNTVKRPTKKG---RDRGGKGQKPRGKEQLAKRKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      smooth
                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          muscles of guinea pig.",
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELLUIAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY)
-!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
EMBL, AY072066), AAL67911.1,
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0004872; F:receptor activity; IEA.
GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cavia porcellus (Guinea pig).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Hystricognathi, Caviidae, Cavia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Α.
GO; GO:0016021, C:integral to membrane; IEA.
GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin.
InterPro; IPRO0027; GPCR.Rhodpsn.
PRINTS; PRO0237; GPCRANDOPSN.
PROSITE; PSO0237; GPROTEIN RECEP FI 1; 1.
PROSITE; PS50262; GPROTEIN RECEP FI 2; 1.
SEQUENCE 460 AA; 51378 MM; 2F6A93DE8FF4F325 CRC64;
                                                                                                                                                                                                                                                         90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Five subtypes of muscarinic receptors are expressed in gastric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. So I., Yang D., Kim H., Min K., Kim S., Kim K., Park K., Choi
                                                                                                                                                                                                                Length 460;
                                                                                                                                                                                                                                 ; Pred. No. 1.8e-27;
83; Mismatches 151; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       259 SSILVSL-----RTHMNSSITAFKVGSFWRSESA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                                                                                                                                                DB 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        587 AA
                                                                                                                                                                                                              20.0%; Score 410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355 VNPFLYPLCHRRFQKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  413 VNPMCYALCNKAFRDTF-RLLLLCRW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                   27.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20,
20,
24,
                                                                                                                                                                                                                               Local Similarity 27.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2002 (TrEMBLrel.
01-MAR-2002 (TrEMBLrel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Muscarinic receptor 3.
```

```
Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
  # # # # # # B
                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -QREYAELLRGRKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQ 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            :|: |:: |::| |:: | TRRKRNSLIKEKRAAQTLSAILLAFIITWTPYNIWULV-NTFCDSCIPKTYW-NLGYWLC 530
                                                                                                                                                                                                                                                                                                                                                                                                           FN-WNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIMKI 132
                                                                                                                                                                                                                                                                                                                                                                                                                                      187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [1] — SEQUENCE FROM N.A.

ISSUE-Testis:
Strausberg R.;
Strausberg R.;
Submirted (DEC-2002) to the EMBL/GenBank/DDBJ databases.
Submirted (DEC-2002), AMH41805.1; -
GO, GO:0016021, C:integral to membrane; IEA.
GO, GO:00164812; F:receptor activity; IEA.
GO, GO:0001584; F:receptor activity; IEA.
GO; GO:0007186; P:receptor outle receptor activity; IEA.
GO; GO:0007186; P:Protein outled receptor protein signalin. .; IEA.
InterPro; IPR000276; GPCR_Rhodpsn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAFI,MSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFINLAISDFLVGLISIPLYIPHVL
                                                                                                                                                                                                                                                                                                                                        VAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPG----FVTEWYILTITMLLEFLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PVTIMTI ----LYWRIYKETEKRTKELAGLQASGTEAETENFVHPTGSSRSCSSYELQQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSETRAIYSIVLKLPGHSTILNSTKLPSSDNLQVPEEDLEPMDMERNASKPQTQKSMDDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GSFQKSFSNLPIQLESTMDTAKTSDANSSVSKTWATLPLSFKEATL--AKRFALRTRSQI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----RRALSRCPSHAGFSTT------SSSASGHLHRAGVACRTSN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----LKESAASRHSESPRRK-----
                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606,
GO; GO:0007186; P:G-protein coupled receptor protein signalin. InterPro; IPR00276; GPCR_Rhodpsn.
Pffam; Pr00001, 7tm 1; 1.
PRINTS; PR00237; GFCRRHODPSN.
PROSITE; PS00237; GFRCRHODPSN.
PROSITE; PS00262; GFROTEIN_RECEP_F1_1; 1.
G-protein coupled receptor; Receptor; Transmembrane.
G-protein coupled receptor; Receptor; Transmembrane.
                                                                                                                                                                                                                                                                     168;
                                                                                                                                                                                                                 20.0%; Score 410; DB 11; Length 587; 24.7%; Pred. No. 2.5e-27; ive 90; Mismatches 123; Indels 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               350 WFNSFVNPFLYPLCHRRFQKAFWKIL 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2003 (TrEMBLrel. 23, Created) 01-MAR-2003 (TrEMBLrel. 23, Last seq 01-0CT-2003 (TrEMBLrel. 25, Last ann Cholinergic receptor, muscarinic 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PVISVAYFNVQIYWSLWK-
                                                                                                                                                                                                                                                                        125; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             133
                                                                                                                                                                                                                                                                                                                         18
                                                                                                                                                                                                                                                                                                                                                                                                                    78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               189
                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QBIVWO;
                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QUIVWO
                                                                                                                                                                                                                                                      Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OBIANG OB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \delta
                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
130
                                                                                                                                                                                                                                                                                                  150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   131 KIVAQMVAVWILAFLVNGPMILASDSW-----KNSTNTKDCEPGFVTEWYILTITMLLEF 185
                                                                                                                                                                                                                                                                                                                                                                                                         213
                                                                                                                                                                                                                                                                                                                                                                                                                                          203 YIPVSVMTILYCRIYRETEKRTKDLADLQGSDSVTKAEKRKPAHRALFRSCLRCPRPTLA 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESAASRHSESPRRKSS-----ILVSLRTHMNSSIT------AFKVG 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    323 VVYKSQGKESPGEEFSAEETEEİFVKAETEKSDYDTPNYLLSPAAAHRPKSQKCVAYKFR 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --SAALROREYAELLRGRKLAR 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ::: | | | :: | | | | 383 LVVKADGNQETNNGCHKVKIMPCPFPVAKEPSIKGLNPNPSHQMTKRKRVVLVKERKAAQ 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLYPLCHR 365
                                                                                                                                                                                                                           90
                                                                                                                                                                                          75
                                                                                                                                                                                                              76 VLF-NWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQHT----GIM
                                                                                                                                                                                                                                                                                     151 IGLA-----WLISFILWAPAILC---WOYLVGKRTVPLDECQIQFLSEPTITFGTAIAAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---SNPGLK
                                                                                                                                                                                        16 VPLAFLMSSFAFRIMVGNAVVILAFVVDRNLRHRSNYFFLNLAISDFLVGLISIPLYIPH
                                                                                                                                                                                                                                                                                                                                                                                                           -----RALSRCP----
                                                                                                                                                          Gapa
                                                                                                                                                        141;
                                                                                                                       532;
                                                                                                                       Length
                                                                                                                                                          Indels
                                                                                 532 AA; 60085 MW; 6674707A1B493C67 CRC64;
                                                                                                                     19.8%; Score 406.5; DB 4; 25.1%; Pred. No. 4.4e-27; tive 89; Mismatches 141;
Pfam; PF00001; 7tm 1; 1.

BRNTAS; PR00237; GPCRADODESN.

PROSITE; PS00237; G PROTEIN RECEP_F1_1; 1.

PROSITE; PS00262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---SHAGFSTT--SSSASGHLHRAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1, 2004, 10:12:40
                                                                                                                                                                                                                                                                                                                                                                                                            LLPVISVAYFNVQIYWSLWKR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RFOKAFWKILCVTKW 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            501 TFRKTF-KMLLLCRW
                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                completed: October
                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SFWRSE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Search completed: (Job time: 48 secs
                                                                                                                                                 Best Local Simi
Matches 124;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             366
                                                                                                                                                                                                                                                                                                                                                                                                                  186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         306
                                                                          Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       214
                                                                                                                              Query Match
```

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.	OM protein - protein search, using sw model	October 1, 2004, 10:13:10 ; Search time 125 Seconds (without alignments) 883.809 Million cell updates/sec	US-10-626-445-8 score: 391 1 MSESNSTGILPPAAQVPLAFWKILCVTKWPALSQNQSVSS 391	Scoring table: OLIGO Gapop 60.0 , Gapext 60.0	1586107 seqs, 282547505 residues	0	Total number of hits satisfying chosen parameters.
	- prot	J			7		r of h
	otein	ä	Title: Perfect score: Sequence:	ng tab	hed:	size :	numbe
	īd WO	Run on:	Title: Perfect s Sequence:	Scori	Searched:	Word size	Total

Post-processing: Listing first 45 summaries

Minimum DB seq length: 0
Maximum DB seq length: 200000000

geneseqp2002s:* geneseqp2003as:* geneseqp2003bs:* geneseqp2004s:* Geneseq_29Jan04:* geneseqp1980s:* geneseqp1990s:* geneseqp2000s:* geneseqp2001s:* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Guinea pi Human G P Human G P Human G P Human G P Human GPC Human GPR Human GPR Human G P Human G P Human G P Human his Aam50565 Mouse his Aam50566 Rat hista G-p G-p his H4 H4 G-p G-p aci Human Amino Human Human Description Aab02831 | Aay71297 | Aab62445 | Aag64477 | Aam51410 | Aam51410 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aab73622 | Aam53050 HAbp98629 HAbb78276 Aam50564 H Aag66023 Han74906 Aau74906 Abg71960 Abb92265 Habb81727 Aae36417 Aae36416 Aam53052 Ham53053 Han853055 Han85505 Han85505 H Aag80931 Abg93749 SUMMARIES ABB78276 AAM50564 AAM53052 AAM53053 AAM50565 AAB02831 AAB62445 AAM51410 AAM53050 ABP98629 AAE36417 AAE36416 AAG80931 Length DB 4 7 7 7 7 7 7 7 7 9 Query Match Score Result

The present sequence is that of a mouse histamine receptor of the H4 subtype, as predicted from a cDNA clone isolated from a spleen cDNA library. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AAI70980-83) and polypeptides (see AAM50564-67). The nucleic acids have been expressed in recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the histamine H4 receptor. Such modulators may be useful

Human

Human Novel	Aae36414 Human H4 Aaw92979 Human mAC Aag67833 Human mAC Aac67840 Pa+ mACHD		Aau27516 Human G-P Aao29538 Human H3 Aao29537 Human H3 Aao29532 Human H3	Human Human Human	Aayessei numan nis Aage5580 Human his Aao29528 Human H3
AAE23411 ABG28404 ABG25785	AAE36414 AAW92979 AAG67833 AAG67840	ABG76408 ABG76415 AAU25653	AAU27516 AAO29538 AAO29537 AAO29532	AAO29531 AAO29535 AAB82911 AAG65581	AAG65580 AAO29528
592 4 592 4 592 4	19 2 2 19 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	19 6 19 6 168 4	230 4 290 7 293 7 326 7	329 7 329 7 340 4 351 4	• •
				m m m m	i m m
2 2 2 2 4 4 4 4 4		22.22	77777	20.01.01.01	2 2 2 3
222	1111	###;	1222		111
2 7 8 7 8 9 8 9 9 8 9 9 9 9 9 9 9 9 9 9 9	32 32	დ ო ო . დ 4 დ .	2 K B B C C C C C C C C C C C C C C C C C	գր գր գր ⊃ է1 G է6	44 45

ALIGNMENTS

encoding it is Histamine H4 receptor; mouse; antiasthmatic; antiallergenic; antiinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy. New mammalian histamine H4 receptor proteins and polynucleotides the proteins, useful in gene therapy for treating diseases where beneficial to elevate mammalian histamine H4 receptor activity. AAM50565 standard; protein; 391 AA, Claim 13; Fig 5B; 92pp; English. (ORTH) ORTHO-MCNEIL PHARM INC. 22-FEB-2001; 2001WO-US005914. 31-MAY-2000; 2000US-0208260P. Mouse histamine H4 receptor. (first entry) WPI; 2002-114339/15. N-PSDB; AAI70981. WO200192485-A1. Mus musculus. Lovenberg T, 18-MAR-2002 06-DEC-2001. AAM50565; RESULT 1 AAM50565

```
Best Loca
Matches
                                                                                                                                                                                                                                                                              AAM50567
                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                 ਨੇ
                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mammalian histamine H4 receptor proteins and polynucleotides encoding proteins, useful in gene therapy for treating diseases where it is
                                                                             ö
                                                                                                                                                                  180
                                                                                                                                                                                  180
                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                         360
                                                                                                               9
                  οĘ
                                                                                                                                                                                                                                                                        RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFLY
                                                                                                             1 MSESNSTGILPPAAQVPLAFLMSSFAFAINVGNAVVILAFVVDRNIRHRSNYFFINLAIS
                                                                                                                                          SYRAQHTGIMKIVAQMYAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                   MLLEFLLPVISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                    MILBFILLPVISVAYFNVQIYWSLWKRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                 for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders the neuroendocrine system, stress and spasticity
                                                                                             1 MSESNSTGILPPAAQVPLAFIMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                 DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVANAV
                                                                                                                                                                                  SYRAQHIGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT
                                                                                                                                                                                                                                       PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                         Histamine H4 receptor; rat; antiasthmatic; antiallergenic; antinflammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy.
                                                                              0
                                                             DB 5; Length 391;
                                                                              0; Indels
                                                         96.9%; Scor.
100.0%; Pred. No. c,
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                         AAM50566 standard; protein; 391 AA.
                                                                                                                                                                                                                                                                                                                        PLCHRRFQKAFWKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-MAY-2000; 2000US-0208260P
                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                             Rat histamine H4 receptor.
                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-114339/15.
N-PSDB; AAI70982.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lovenberg T, Liu C;
                                                                        Similarity
                                               Sequence 391 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200192485-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus rattus
                                                              Query Match
Best Local Simi.
Matches 379;
                                                                                                                                                                                                                                                                                                                                                                                                            18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                           AAM50566;
                                                                                                                                     61
                                                                                                                                                                                                        181
                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                             301
                                                                                                                                                     61
                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the ]
                                                                                                                                                                                                                                                                                                                                                                  AAM50566
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                               \overset{\sim}{\circ}
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                a
                                                                                                                                    ŏ
                                                                                                                                                    g
                                                                                                                                                                      ð
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                             ŏ
     5555X8
```

```
The present sequence is that of a rat histamine receptor of the H4 subtype, as predicted from a cDNA clone isolated from a spleen cDNA clubtype, as predicted from a cDNA clone isolated from a spleen cDNA clubrary. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AA170980-83) and complete the combinant host calls that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of thistamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the histamine H4 receptor. Such modulators may be useful for diagnosing, treating or preventing asthma, allergy, inflammation, cardiovascular and carebrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence is that of a guinea pig histamine receptor of the H4 subtype, as predicted from a cDNA clone isolated from a bone marrow library. The invention provides mammalian (human, mouse, rat and guinea pig) histamine H4 receptor nucleic acid molecules (see AAI70980-83) and polypeptides (see AAMS0564-67). The nucleic acids have been expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   įs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Histamine H4 receptor; guinea pig; antiasthmatic; antiallergenic; antiinfiammatory; cardiant; circulatory; antidiabetic; laxative; diagnosis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New mammalian histamine H4 receptor proteins and polynucleotides the proteins, useful in gene therapy for treating diseases where beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ..
0
beneficial to elevate mammalian histamine H4 receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 33; DB 5; Le
Pred. No. 1.5e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131 KIVAQMVAVWILAFLVNGPMILASDSWKNSTNT 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KIVAQMVAVWILAFLVNGPMILASDSWKNSTNT 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8.4%; Scc. 100.0%; Pred. No. 1....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAM50567 standard; protein; 389 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Guinea pig histamine H4 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 13; Fig 6C; 92pp; English.
                                                                     English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (ORTH ) ORTHO-MCNEIL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-FEB-2001; 2001WO-US005914.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-MAY-2000; 2000US-0208260P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                         6A; 92pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΰ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-114339/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
es 33; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Liu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAI70983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             porcellus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 391 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200192485-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lovenberg T,
                                                                     Claim 13; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-DEC-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAM50567;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cavia
```

0

```
ö
                                                                                                                      diabetes mellitus, hyperglycemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity
recombinant host cells that produce active recombinant protein. The pharmacology of known histamine ligands is demonstrated. Mammalian histamine H4 receptor may be used in gene therapy for the treatment of diseases where it is beneficial to elevate mammalian histamine H4 receptor activity. Recombinant protein is useful for identifying modulators of the histamine H7 receptor. Such modulators may be useful for diagnosing, treating or preventing aschma, allergy, inflammation, cardiovascular and cerebrovascular disorders, non-insulin dependent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G protein-coupled receptor; nGPCR; seven transmembrane receptor; signal transduction; schizophrenia; thyroid disorder; renal failure; rheumatoid arthritis; CNS disorder; infection; metabolic disease; cardiovascular disease; proliferative disorder; hormonal disorder; neurological disorder; neurological disorder; neurological disorder; attention deficit hyperactivity disorder/attention deficit disorder; Parkinson's disease; migraine; senile dementia; inflammatory disease; rheumatoid arthritis; autoimmune disorder; respiratory ailment;
                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   od LS, Parodi LA, Hiebsch RR, Lind P, Slightom J;
Kaytes PS, Bannigan CM, Ruff V, Sejlitz T, Huff RM;
                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                  Length 389;
                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                 1.6e-23;
                                                                                                                                                                                             8.2%; Score 32; DB 5;
100.0%; Pred. No. 1.6e-2;
ive 0; Mismatches
                                                                                                                                                                                                                                                      FWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                        AAG80931 standard; protein; 73 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Parodi LA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0165838P.
99US-0166071P.
99US-0166678P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (PHAA ) PHARMACIA & UPJOHN CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-NOV-2000; 2000WO-US031581.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-0185421P.
2000US-0185554P.
2000US-0186530P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0173396P.
2000US-0184129P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0188114P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0190800P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0201190P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0186811P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0190310P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0198568P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0203111P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0207094P
                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 32; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wood LS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-389826/41.
                                                                                                                                                                Sequence 389 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                neuroprotective
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200136473-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-MAR-2000;
17-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-FEB-2000;
28-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schellin KA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-DEC-1999;
22-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                      28-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19-NOV-1999
                                                                                                                                                                                                                                                        83
                                                                                                                                                                                                                                                                                                                                                                                         AAG80931;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vogeli G,
                                                                                                                                                                                                                                                                                                                              RESULT 4
                                                                                                                                                                                                                                                                                                                                              AAG80931
   g
```

```
The present invention relates to novel G protein-coupled receptors (GPCRx; where x is 1, 3, 4, 5, 9, 11, 12, 14-18, 20, 21, 22, 24, 27, 28, 31-38, 40, 41, 53-60) and their coding sequences. The present sequence is one such G protein-coupled receptor. GPCRs are also known as seven transmembrane receptors and function in signal transduction. The nGPCRx coding sequences are useful for screening a human to diagnose a disorder
                                                                                                                                                                                                                                                   affecting the brain or agentic predisposition, specifically schizophrenia. Defection of notices a numeral compounds useful for treating schizophrenia. Detection of noporax in a sample is useful as a flagmostic tool for diseases or disorders, in a sample is useful as a failure, rheumatoid arthritis, CNS disorders, infections such as HIV-1, metabolic and cardiovascular diseases, proliferative disorders and thormonal disorders. Modulators of noporax extivity have the utility for treating neurological disorders, including schizophrenia, ADHD/ADD (attention deficit-hyperactivity disorder/attention deficit disorder), and neuronal disorders who as Alzheimer's disease, Parkinson's disease, migraine and senile dementia additional disorders include inflammatory conditions (e.g. Crohn's disease), rheumatoid arthritis, autoimmune disorders, cancers, respiratory allments such as asthma, and inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ó
                                           encoding polynucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; receptor; G protein-coupled receptor; GPCR; nGPCR; beGPCR; nG protein coupled receptor; communication; serpentine structure; seven transmembrane receptor; 7TW; mental disorder; diagnosis; genetic predisposition; brain; immune response; gene therapy; anxiety disorder; depression; bipolar disorder; schizophrenia; Huntington's disease; dyskinesia; manic depression; stroke; Parkinson's disease; Alzheimer's disease; diabetes; inflammation; wound;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.4%; Score 21; DB 4; Length 73;
100.0%; Pred. No. 5.1e-13;
ive 0; Mismatches 0; Indels
                                     New G protein-coupled receptor (nGPCR-x) and its encod
useful for diagnosing and treating e.g. schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human G protein-coupled receptor protein, beGPCR-seq4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diseases e.g. inflammatory bowel disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wood LS;
                                                                                             Claim 37; Page 77; 261pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ä.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31 TDYLLCTASVYNIVLISYDRY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABG93749 standard; protein; 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vogeli G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PHAA ) PHARMACIA & UPJOHN CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-FEB-2001; 2001WO-US004641.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-FEB-2001; 2001WO-US004641.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Parodi LA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-674879/72
N-PSDB; AAH50971,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 73 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200264789-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tranquiliser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-AUG-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABG93749;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lind P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABG93749
```

```
AAE36415 standard; protein; 357 AA.
                                                                                                                                                                                                            93 TDYLLCTASVYNIVLISYDRY 113
                                   Example 1; Page 72; 244pp; English.
                                                                                                                                                                                                                    31 TDYLLCTASVYNIVLISYDRY 51
                                                                                                                                                                   referred to as beGPCRs) proteins
                                                                                                                                                                                                                                                                                                                                                                  31-AUG-2001; 2001US-0316762P.
13-NOV-2001; 2001US-0332697P.
                                                                                                                                                                                                                                                                                                                                                        30-AUG-2002; 2002WO-US027891.
                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                   21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                 (MERI ) MERCK & CO INC
                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                   WO2003020907-A2.
N-PSDB; ABS70204
                                                                                                                                                                               Sequence 73 AA;
                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                      07-AUG-2003
                                                                                                                                                                                                                                                                                                                                              13-MAR-2003
                                                                                                                                                                                                                                                            AAE36415;
                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                        RESULT 6
                                                                                                                                                                                                                                             d
                                                                                                                                                                                                              à
```

```
Novel splice variants of human H4 histamine receptor, H4b and H4c, useful for identifying agonists or antagonists of the receptor which are useful for treating multiple sclerosis, asthma, allergy, psoriasis and stroke.
                                                                                                                                                                                                                                                The invention relates to splice variants of human H4 histamine receptor, H4b and H4c. The invention is useful for identifying an agonist, antagonist or inverse agonist of a mammalian histamine receptor. The agonist, antagonist or inverse agonist of H4b and H4c is useful for treating inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infarction, migraine, chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease, or psoriasis. The present sequence is human H4c protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; G protein coupled receptor; GPCR; transmembrane receptor; identification; agonist; screening; therapeutic; pharmaceutical; mutant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human G protein coupled receptor hRUP7 protein SEQ ID NO:14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.4%; Score 21; DB 6; Le 100.0%; Pred. No. 2.4e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                    Claim 21, Page 50-51; 31pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB02831 standard; protein; 390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93 TDYLLCTASVYNIVLISYDRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-00170496.
98US-0108029P.
98US-0109213P.
98US-0120416P.
99US-0121852P.
99US-0123944P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             990S-0123946P.
990S-0123948P.
990S-0123949P.
990S-0123951P.
990S-0136436P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0137127P.
99US-0137131P.
99US-0137567P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0136437P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0141448P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-US024065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                  Gallagher MJ, Yates SL;
                                                              2003-290186/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                   N-PSDB; AAD55124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 357 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200022131-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-NOV-1998;
27-NOV-1998;
16-FEB-1999;
26-FEB-1999;
12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-MAR-1999;
12-MAR-1999;
12-MAR-1999;
12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28-MAY-1999;
28-MAY-1999;
28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13-0CT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-MAY-1999
29-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-APR-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB02831;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                              WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB02831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                          The invention discloses an isolated human polypeptide, and encoding mucleic acid, for a G protein-coupled receptor (GPCR), particularly the mucleic acid, for a G protein-coupled receptor (GPCR), particularly the communication between cells and their environment and are characterised communication between cells and their environment and are characterised by a serpentine structure that passes through the cell membrane seven times, hence the receptors (TPM). The polymucleotides and polypeptides are useful for identifying an nGPCR allelic variant that correlates with a mental disorder, for isolating an antibody that binds the polypeptide or the polypeptide, for identifying a compound that binds the polypeptide or polymucleotide and/or modulates its biological activity, for screening a human subject to diagnose a disorder, or a genetic predisposition to a disorder, affecting the brain or a genetic disposition to the disorder. Cor identifying a compound useful as a modulator of binding between corrective and for identifying a compound useful as a modulator of binding between not identifying a compound useful as a modulator of binding between corrective and for identifying a compound useful as a modulator of binding between corrective and for identifying a compound useful as a modulator of binding between corrective in particularly useful, using gene therapy, for treating e.g. anxiety disorders, depression, bipolar disorder, schizophrenia, corrective in a disease, manic depression, stroke, Parkinson's be used for treating diabetes, inflammation or wounds. The sequences corrective the packers or hardened in Abeliane's land public acid and polypeptide may also be used for treating diabetes, inflammation or wounds. The sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; H4; histamine receptor; inflammatory bowel disease; psoriasis; atopic dermatitis; stroke; myocardial infarction; migraine; allergy; chronic obstructive pulmonary disease; COPD; cerebroprotective; therapy; rheumatoid arthritis; multiple sclerosis; inflammation; neuroprotective; asthma; receptor; variant.
                                       New nucleic acids and polypeptides of the nG protein-coupled receptor, useful for treating or diagnosing a mental disorder or a disorder affecting the brain, e.g. anxiety disorders, schizophrenia, stroke or Parkinson's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5.4%; Score 21; DB 5; Length 73;
100.0%; Pred. No. 5.1e-13;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human H4 receptor splice variant (H4c) protein.
```

. 0

Gaps

.. 0

Length 357; 0; Indels

```
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB62445;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                           Chen R,
                                                                                                                                                                         (AREN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB62445
      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention describes transmembrane receptors, preferably human g protein coupled receptors (GPCR), for which the endogenous ligand is unknown (orphan GPCR receptors). More specifically the present invention relates to non-endogenous, constitutively activated versions of a human GPCR. These non-endogenous human GPCRs can be useful for the direct identification of candidate compounds as receptors agonists, inverse agonists or partial agonists for use as pharmaceutical agents. AAA46017 exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                    Non-endogenous, human G protein-coupled receptors for screening receptor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; orphan G protein-coupled receptor; GPCR; hRUP7; drug screening;
transmembrane receptor; signal cascade.
                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                     Dang HT;
                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                                                       5.4%; Score 21; DB 3; Length 390;
100.0%; Pred. No. 2.6e-12;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                              inverse or partial agonists useful as therapeutic agents
                                                                                                                                   Chen R,
                                                                                                                                 Lehmann-Bruinsma K, Chalmers DT, ciaw CW, Lin I, Lowitz K, White C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human orphan G protein-coupled receptor hRUP7.
                                                                                                                                                                                                              Example 1; Page 89-90; 187pp; English.
                                                                                                                                                                                                                                                                                                                                                                          93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                      93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY71297 standard; protein; 390 AA
990S-0155524P.
990S-015653F.
990S-0156634P.
990S-0156634P.
990S-015653P.
990S-0157280P.
990S-0157281P.
990S-0157281P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0109213P.
99US-0120416P.
99US-0121852P.
99US-0123946P.
99US-0123949P.
                                                                                        99US-00416760,
                                                                                               99US-00417044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99WO-US023687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                               Local Similarity 100.
nes 21; Conservative
                                                                                                               (AREN-) ARENA PHARM INC.
                                                                                                                                                           WPI; 2000-317986/27.
                                                                                                                                          Liaw CW,
                                                                                                                                                                   N-PSDB; AAA46023
                                                                                                                                                                                                                                                                                                                      Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200031258-A2
                                          01-OCT-1999;
                                                           01-0CT-1999;
                                                                                              12-OCT-1999;
                                   29-SEP-1999;
                                                                              01-OCT-1999;
                          29-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens.
                  29-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1999;
12-MAR-1999;
12-MAR-1999;
                                                                                    12-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-JUN-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-NOV-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-FEB-1999
                                                                                                                                 Behan DP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY71297;
                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                           Gore M,
                                                                                                                                                                                                                                                                                                                                               Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                             AAY71297
ò
```

```
The present amino acid sequence is the hRUP7, an endogenous human orphan G protein-coupled receptor (GPCR). The full length hRUP7 cDNA was cloned by RT-PCR using human peripheral leucocyte cDNA as template. The orphan GPCR of the invention, like all GPCRs has seven transembrane alpha helices with an extracellular N-terminus and an intracellular C-terminus. However, no endogenous ligands has yet been identified for the proteins of the invention. The orphan GPCRs may be used in the identification of their endogenous ligands, and to screen potential GPCR agonists and antagonists for use as pharmaceutical agents. The proteins may also be antagonists for use as pharmaceutical agents. The proteins may also be their precise role in normal and diseased human conditions. Nucleic acid encoding human orphan GPCRs may be used for tissue localisation in expression analysis to provide information about their function in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel human orphan G protein-coupled receptors and the encoding cDNAs for use in the identification of G protein-coupled receptor agonists.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             G-protein coupled receptor, GPCR; PFI-013; antiallergic; antiasthmatic; antiinflammatory; vasotropic; antidiabetic; anorectic; cytostatic; human; osteopathic; neuroprotective; nootropic; dermatological; gynecological; signal transduction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 21; DB 3; Length 390;
Pred. No. 2.6e-12;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 26; Page 60-61; 102pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human GPCR-like polypeptide, PFI-013.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lin I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB62445 standard; protein; 390 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 100.0%; Pr
                                                                          99US-0136567P.
99US-0137127P.
99US-0137131P.
99US-0156555P.
99US-0156633P.
                                                                                                                                                                                                                                                      99US-0156653P.
99US-0157280P.
99US-0157281P.
99US-0157282P.
                          99US-0136437P.
                                                                                                                                                                                                                                                                                                                                                                                      99US-0157294P
99US-00416760
                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-00417044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dang HT, Liaw CW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-JUL-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-400068/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAD01124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ARENA
28-MAY-1999;
28-MAY-1999;
28-MAY-1999;
28-MAY-1999;
                                                                                                                                                    29-JUN-1999;
29-SEP-1999;
29-SEP-1999;
29-SEP-1999;
                                                                                                  28-MAY-1999
                                                                                                                                                                                                                                                         29-SEP-1999;
                                                                                                                                                                                                                                                                                 01-OCT-1999;
01-OCT-1999;
                                                                                                                                                                                                                                                                                                                                   01-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                        12-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                           01-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                      01-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                           12-OCT-1999
```

0;

Ohta M;

Tanaka K,

EP1096009-A1. 02-MAY-2001

Peter B,

```
The present sequence is that of the human G protein-coupled receptor protein BG26, which shows significant homology with histamine H3, with activity of binding to histamine and capable of changing intracellular cAMP concentration in response to its simulus. The protein is applicable as a tool in screening ligands or drug candidates for regulating signal transduction from such protein and treating diseases associated with its
                                                                                                                                                                                                                                                                                        G protein-coupled receptor protein BG26, with activity of binding to histamine and capable of changing intracellular cAMP concentration in response to its stimulus, applicable as tool in screening ligands or drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human, guanosine triphosphate-binding protein-coupled receptor; GPRV53; intracellular calcium ion regulation; histamine receptor; leukocyte.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.4%; Score 21; DB 4; Length 390
100.0%; Pred. No. 2.6e-12;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; Page 41-44; 50pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAM51410 standard; protein; 390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Saito Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TDYLLCTASVYNIVLISYDRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000JP-00163147.
2000JP-00223870.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAR-2001; 2001WO-JP002767
                                                           20-DEC-2000; 2000WO-JP009038.
                                                                                                    99JP-00361687
                                                                                                                                                 (BANY ) BANYU PHARM CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.
nes 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HELI-) HELIX RES INST.
                                                                                                                                                                                             Ļ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ,,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-626265/72.
N-PSDB; AAI66009.
                                                                                                                                                                                               Nakamura
                                                                                                                                                                                                                                        WPI; 2001-441675/47.
                                                                                                                                                                                                                                                          N-PSDB; AAH47911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200173023-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matsumoto S,
Sugiyama T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                        20-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human GPRV53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       04-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           abnormality
                    28-JUN-2001
                                                                                                                                                                                               Itadani H,
                                                                                                                                                                                                                                                                                                                                                                          candidates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAM51410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAM51410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This is a human G-protein coupled receptor (GPCR)-like polypeptide, PFI-
013, encoded by CDNA of NOTMB 41073. The PFI-013 protein can be expressed
by standard recombinant methodology. Antibodies and modulators of PFI-013
care useful in the manufacture of a medicament for treating allergic
disorder, including extrinsic asthma, immunological disorders, such as
intrinsic asthma, vasculitic granulomatous disease, including chronic obstructive pulmonary disease
intrinsic asthma, vasculitic granulomatous disease. Interstitial and
cher pulmonary disease, including chronic obstructive pulmonary disease
coppi, infectious, inflammatory disease, such as inflammatory bowel
disease and neoplastic and myeloproliferative diseases. They are also
cuseful for treating obsetty, diabetes, metabolic, meurological disease,
psychotherapeutics, urogenital disease, reproduction and sexual medicine,
inflammation, cancer, tissue repair, dermatology, photoageing, skin
conflammation, osteoporosis, cardiovascular, gastrointestinal diseases,
allergy and respiratory disease, sensory organ disorders, sleep disorders
and hair loss. The PRI-013 protein and nucleic acid are useful in the
diagnosis and treatment of the above conditions and also for screening
crand hair loss. The PRI-013 protein and nucleic acid are useful in the
diagnosis and treatment of the above conditions and also for screening
crand candidates for the treatment of diseases associated with signal
cransduction. The antibodies are also useful for enrichment of
cransduction and also useful for enrichment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human, G protein-coupled receptor protein BG26; histamine H3; histamine; altering intracellular cAMP concentration; regulating signal transduction.
                                                                                                                                                                                                                                                                                                                                                                                            New G-protein coupled receptor-like polypeptide, polynucleotide for screening drug candidates for treating diseases associated with signal transduction e.g. allergic, inflammatory, pulmonary, neoplastic diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 21; DB 4; Length 390; Pred. No. 2.6e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human G protein-coupled receptor protein BG26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5.4%; Scc.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG64477 standard; protein; 390 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 22; Page 44; 66pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein in biological samples
                                                                                                                                                             29-OCT-1999; 99GB-00025641.
20-APR-2000; 2000GB-00009973.
                                                                                                                      24-OCT-2000; 2000EP-00309364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21; Conservative
                                                                                                                                                                                                                                                                                               O'reilly MA;
                                                                                                                                                                                                                                                                                                                                          WPI; 2001-309854/33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                               (PFIZ ) PFIZER LTD.
(PFIZ ) PFIZER INC.
                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAF83203.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-SEP-2001
```

0

Gaps

.. 0

Length 390;

Suwa M;

Yoshida K,

Morikawa N,

WO200146414-A1

AAG64477;

RESULT 10 AAG64477

g

Matches

~

PREVEST. GERVES is a new type of histamine receptor which is preferentially expressed in peripheral leukocytes and on stimulation with histamine causes a change in intracellular calcium ion concentration. GPRVS3 is useful in the identification of antagonists and agonists of histamine binding to GPRVS3 which can be used for the treatment and prevention of histamine-associated disorders. Also, since the receptor protein is preferentially expressed in tissues (especially in peripheral leukocytes) other than those associated with the known histamine receptor types H1-H3 it is useful in the investigation of the role of histamine and its receptors in the tissues in which it is expressed cation of agonists and antagonists as drugs active in histamine-The invention relates to human G-protein coupled histamine receptor Gene encoding a G-protein coupled histamine receptor protein for Claim 1; Page 42-43; 51pp; Japanese. related disorders.

Sequence 390 AA;

Gaps · 0 DB 4; Length 390; 2.6e-12; Indels . 5.4%; Score 21; DB 100.0%; Pred. No. 2.6 tive 0; Mismatches 21; Conservative Local Similarity Query Match Matches

0;

93 TDYLLCTASVYNIVLISYDRY 113

ð g

93 TDYLLCTASVYNIVLISYDRY 113

AAB73622 standard; protein; 390 AA. RESULT 12 AAB73622

(first entry) 10-AUG-2001 AAB73622;

Human G protein-coupled receptor AXOR35.

AXOR35; human; G protein-coupled receptor; 7TM receptor; blistamine H3 receptor homologue; infection; viral; bacterial; fungal; protozoan; HIV-1; HIV-2; pain; cancer; diabetes; obesity; anorexia; bulimia; osteoporosis; asthma; allergy; urinary retention; acute heart failure; hypotension; hypertension; angina pectoris; myocardial infarction; stroke; ulcer; migraine; vomiting; psychotic disorder; neurological disorder; anxiety; scrizophrenia; manic depression; bipolar disorder; depression; delirium; dementia; severe mental retardation; dyskinesia; Parkinson's disease; Huntington's disease; Gilles de la Tourette's syndrome; lymphocyte; macrophage; eosinophil; neutrophil; function modulation; autoimmune disorder; pulmonary disorder; gene therapy; vaccine; drug screening; signal transduction; transgenic animal; drug discovery.

Homo sapiens.

WO200133221-A1.

10-MAY-2001.

26-OCT-2000; 2000WO-US029461.

02-NOV-1999; 99US-00431898. 03-FEB-2000; 2000US-00497790.

Graybill TL, Fitzgerald LR, (SMIK) SMITHKLINE BEECHAM CORP. (SMIK) SMITHKLINE BEECHAM PLC. Morrow DM, Bergsma DJ, Michalovich D, Aubart KM,

WPI; 2001-316464/33. N-PSDB; AAH24007.

the invention relates to the numan of protein-coupled receptor AXOR35 cand variants of the analysis of and variants of the numan of protein-coupled receptors, AXOR35 has and variants. Like all G protein-coupled receptors, AXOR35 has considered in signal transduction. AXOR35 has compared and structural similarity with G protein-coupled receptors such as the human histeranian H3 receptor. The invention also relates to recombinant expression of AXOR35, and to an AXOR35-specific antibody. AXOR35 proteins and nucleorides may be used to treat a wide variety of disorders including bacterial fungal, protozoal and viral infections, particularly HIV-1 or HIV-2 infections; pain; cancers; benign prostatic hypertension; and nucleorides may be used to treat a wide variety of disorders including bacterial fungal, protozoal and viral infections, particularly datetes; obesity; anorexis, bulimia; osteoporosis; asthma; allergies; urinary retention; acute heart failure; hypotension; hypertension; andibetes; obesity; anorexis, bulimia; osteoporosis; asthma; allergies; contains and severe mental of percoris; myocardial infarction; stroke; ulcers; migraine; vomiting; percoris; myocardial infarction; stroke; ulcers; migraine; vomiting; continous and depression, depression, delirium, dementia, and severe mental continous and depression, depression, delirium, dementia, and severe mental continous and used in soreening compounds for their ability to mathbodies are useful as vaccinies, and AXOR35 proteins, and dyskinesis, and AXOR35 proteins, mucleotides and antibodies are also the detection of lymphocytes, macrophages, eosinophils or neutrophils in contained and the detection of abnormal levels of protein or manal against the detection of mutations in the corresponding gene. AXOR35 proteins are considered as manaled and adaptors of a sethmatic lung. AXOR35 proteins and antibodies are also useful for inducing an immunological response in a manale against the above diseases, and for antibody production. The present of the above diseases, a treating cancer, autoimmune, pulmonary, cardiovascular and neurological disorders and for identifying modulators useful for treating asthma. the invention relates to the human G protein-coupled receptor AXOR35 Novel G-protein coupled receptor polypeptide and polynucleotide for Claim 1; Page 50-51; 54pp; English. sequence represents human AXOR35

Sequence 390 AA;

Gaps .. 4; Length 390; 0; Indels 5.4%; Score 21; DB 4; Le 100.0%; Pred. No. 2.6e-12; tive 0; Mismatches 0; 21; Conservative Local Similarity Query Match Matches

·.

à g AAM53050

AAM53050 standard; protein; 390 AA. AAM53050;

26-MAR-2002 (first entry)

Human G protein-coupled receptor nGPCR-2067.

depression; anxiety; bipolar disorder; dementia; Alzheimer's disease; Parkinson's disease; proliferative disorder; cancer; psoriasis; barkinson's disease; proliferative disorder; cancer; psoriasis; thyroid prostatic hypertrophy; diabetes; dyslipidaemia; obesity; anorexia; thyroid disorder; cardiovascular disease; hypotension; hypertension; thrombosis; myocardial infarction; cardiomyopathy; atherosclerosis; inflammatory conditions; autoimmune disorder; rheumatoid arthritis; Human; nGPCR-2067; G protein-coupled receptor; 7TM receptor; signal transduction; mental disorder; central nervous system disease; metabolic disease; infection; HIV-1; HIV-2; pain; neurological disorder; psychotic disorder; Huntington's disease; schizophrenia; migraine;

ö

Homo sapiens Lind P, Domain Domain Domain Domain Domain Domain Domain Key

```
hormonal disorder; renal failure; anti-HIV; analgesic; cytostatic antidiabetic; metabolic; hypertensive; hypotensive; thrombolytic; cardiant; antiatherosclerotic; neuroleptic; antimigraine; antiparkinsonian; tranquiliser; antidepressant; neuroprotective; anticonvulsant; antimiflammatory; antirheumatic; antiatrhritic; antipsoriatic; gene therapy; receptor.
```

305. .326 /label= Transmembrane_domain_6 'label= Transmembrane_domain_5 342. .360 /label= Transmembrane_domain_7 19. .41
/label= Transmembrane domain_1 /label= Transmembrane_domain_2 /label= Transmembrane_domain_3 128. .146 /label= Transmembrane_domain_4 Location/Qualifiers .194 .110

WO200185793-A2

15-NOV-2001.

08-MAY-2001; 2001WO-US014750.

08-MAY-2000; 2000US-0203108P.

(PHAA) PHARMACIA & UPJOHN CO

Vogeli G, Sejlitz T,

Wood LS;

WPI; 2002-062240/08. N-PSDB; ABA02496 New polynucleotide, useful for identifying modulator compounds which are used for treating psoriasis, schizophrenia, diabetes, encodes the novel (protein-coupled receptor (nGPCR) polypeptide (nGPCR-2067).

Claim 31; Page 63; 100pp; English

this sequence represents a nove numer of process.

This sequence represents a nove numer of process.

C designated nGPCR-2067. Like all GPCRs, nGPCR-2067 has 7 putative transmembrane domains and is involved in signal transduction. The molecular acids encoding nGPCR-2067, to recombinant expression of nGPCR-2067 mucleic acids encoding nGPCR-2067, to recombinant expression of nGPCR-2067 acivity. nGPCR-2067 acivity. nGPCR-2067 acivity. nGPCR-2067 mucleic acid sequences may be used to isolate nGPCR-2067 acivity. nGPCR-2067 and species homologues and may also be used in genetic mapping. The invention also discloses the use of nGPCR-2067 nucleic acids in screening for a predisposition to nGPCR-2067 acids cacids in screening cfor a predisposition to nGPCR-2067 acids cacids in screening cfor a predisposition to nGPCR-2067 acids cacids in screening cfor a predisposition to nGPCR-2067 acids and nGPCR-2067 mucleic acids in screening cfor a predisposition to nGPCR-2067 mucleic acids in screening cfor a predisposition to nGPCR-2067 mucleic acids in screening cfor a predisposition to nGPCR-2067 mucleic acids in screening cfor a predisposition to nGPCR-2067 mucleic acids in screening cfor a predisposition to nGPCR-2067 mucleic acids in screening cfor a predisposition to nGPCR-2067 mucleic acids in screening cfor acids may also be used in the design of artisense cfor modulators may be used to treat a wide variety of medical conditions, particularly mental disorders, central nervous system neurological and psychotic disorders such as Huntingcon's dementia, Alzheimer's disease, and may also be used to reat a wide variety of medical criserates, schizophrenia, migraline, depression, anxiety, bipolar disorder, dementia, Alzheimer's disease, and may also persession, anxiety, bipolar disorder, dementia, thyroid disorders, cardiomy cardiomy cardiomy cardiomy cardiomy cardiomy, papertension, thrombosis, myocardial infarction, obesity, and hypertension, thrombosis, anyocardial infarction, acids myocardial infarction, acids may acid and a sequence represents a novel human G protein-coupled receptor (GPCR)

searching

This sequence represents the amino acid sequence of a human histamine receptor (HR) designated SP9144. The sequence was isolated by searching databases with the sequence of known G-coupled protein receptor (GCPR). The gene is used for recombinant production of HR and for preparing antibodies (Ab). These Ab are used to purify HR by immunoaffinity chromatography, in immunoassay of histamine receptor, to identify CDNA clones that express the receptor, as antagonist to block binding of histamine (for treating any histamine-associated disorder) and to generate anti-idiotypic antibodies. Agonists and antagonists of the HR protein can be used in the treatment of e.g. inflammation, asthma, allergy, atopic dermatitis, stroke, myocardial infarction, migraine, chronic obstructive pulmonary disease, rhemmatoid arthritis, multiple sclerosis, inflammatory bowel disease and psoriasis

Length 390;

DB 5;

Score 21;

5.48;

Sequence 390 AA;

Query Match

```
anti-asthmatic; anti-allergic; dermatological; cerebroprotective; stroke; anti-migraine; cardiant; anti-rheumatic; anti-arthritic; antipsoriatic; anti-archerity; inflammation; asthma; allergy; atopic dermatitis; myocardial infarction; mygraine; chronic obstructive pulmonary disease; rheumatoid arthritis; multiple sclerosis; inflammatory bowel disease;
disorders (e.g.,
                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New nucleic acid encoding antigenic part of human histamine receptor. useful for preparing antibodies, e.g. for treating-histamine related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Umland SP;
                                                                            .;
0
          rheumatoid arthritis); hormonal disorders; and renal failure
                                                                                                                                                                                                                                                                      human; histamine receptor; chromosome 18; anti-inflammatory;
                                                     Length 390;
                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Morse KL,
 atherosclerosis; inflammatory conditions; autoimmune
                                                                              .
                                                                  2.6e-12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Laz TM, Monsma FJ,
                                                        DB
                                                                            0; Mismatches
                                                                 Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Col 27-30; 19pp; English
                                                                                                                                                                               ABP98629 standard; protein; 390 AA
                                                                                                  93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                  Human histamine receptor SP9144.
                                                                                                                                                                                                                                                                                                                                                                                                                                99US-00414010.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-00414010
                                                                 100.0%;
                                                         5.48;
                                                                                                                                                                                                                            13-JUN-2003 (first entry)
                                                                              21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Behan JX, Hedrick JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SCHE ) SCHERING CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2002-442063/47.
                                                                                                                                                                                                                                                                                                                                          psoriasis; receptor.
                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; ABZ80663
                                   Sequence 390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                 07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                Homo sapiens,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                    US6204017-B1
                                                                                                                                                                                                                                                                                                                                                                                                           20-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disorders.
                                                                                                                                                                                                      ABP98629;
                                                       Query Match
Best Local {
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              s;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wang
                                                                              Matches
                                                                                                                                                           RESULT 14
                                                                                                                                                                       ABP98629
                                                                                                                                                                                            2228
                                                                                                                         d
                                                                                                      ò
```

0

Gaps

```
Novel mammalian histamine receptor polypeptide useful for identifying agonist or antagonist for treating diseases such as inflammation, asthma, stroke, migraine, rheumatoid arthritis, multiple sclerosis, psoriasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents a histamine receptor. The polypeptide is useful for identifying an agonist or antagonist of a mammalian histamine receptor. It is useful as an antigen to elicit the production of antibodies. The histamine receptor polypeptide and polynucleotide are useful in the treatment and management of diseases such as inflammation, migraine, chronic obstructive pulmonary disease (COPD), rheumatoid arthritis, multiple sclerosis, inflammatory bowel disease and psoriasis. They are also useful for modulating intracellular second messenger. They are also useful for modulating intracellular second messenger pathway activated through histamine receptors (cyclic-AMP, calcium, incellular growth rate, secretion of hormones, receptor-stimulated Ca2+mobilization, mitogenic effects, etc
                                                                                                                                                                                                                                                                        Human; histamine receptor; receptor; inflammation; asthma; allergy; atopic dermatitis; stroke; myocardial infection; migraine; chronic obstructive pulmonary disease; COPD; rrhumatoid arthritis; multiple sclerosis; inflammatory bowel disease; psoriasis; inflammatory bowel disease; psoriasis; intracellular second messenger pathway; cellular growth rate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Umland SP;
                    .
                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Morse KL,
                   0
 Pred. No. 2.6e-12;
                                                                                                                                                                                                                                             Amino acid sequence of human histamine receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Monsma FJ,
                   0; Mismatches
                                               113
                                                                 93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                    ABB78276 standard; protein; 390 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 2; Page 16-17; 21pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Laz TM,
                                              93 TDYLLCTASVYNIVLISYDRY
   100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-MAR-2001; 2001US-00812216.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00414010.
                                                                                                                                                                                                                (first entry)
                 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Behan JX, Hedrick JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BEHAN J X.
HEDRICK J A.
LAZ T M.
MONSMA F J.
MORSE K L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-673827/72.
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UMLAND S P.
WANG S.
                                                                                                                                                                                                                                                                                                                                                        hormone secretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ABW78739
                                                                                                                                                                                                                                                                                                                                                                                                                 US2002098539-A1
                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 390
                                                                                                                                                                                                                05-DEC-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                              25-JUL-2002
                                                                                                                                                                                  ABB78276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (HEDR/)
(LAZT/)
(MONS/)
(MORS/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UMLA/)
(WANG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BEHA/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang S;
               Matches
                                                                                                                                                     à
```

5.4%; Score 21; DB 5; Length 390; 100.0%; Pred. No. 2.6e-12;

Query Match Best Local Similarity

```
°,
 Gaps
 0;
 Indels
 ·,
 0; Mismatches
                93 TDYLLCTASVYNIVLISYDRY
                               93 TDYLLCTASVYNIVLISYDRY
21; Conservative
Matches
                                 g
                 ö
```

completed: October 1, 2004, 10:26:22 ne : 127 secs Search co

This Page Blank (uspto)

Н

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

-
mode
X S
using s
search,
protein
1
protein
Š

October 1, 2004, 10:24:15; Search time 32 Seconds (without alignments) 630.805 Million cell updates/sec Run on:

Title: Perfect score:

Sequence:

391 1 MSESNSTGILPPAAQVPLAF......WKILCVTKWPALSQNQSVSS 391 US-10-626-445-8

Gapop 60.0 , Gapext 60.0 OLIGO Scoring table:

389414 segs, 51625971 residues Searched:

0 Word size :

389414 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database :

1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:* Issued_Patents_AA:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	iland C acretmos	, c	œ	8	Sequence 15, Appl	7	7	7	Ŋ	7,	Sequence 7, Appli	7,	'n	Sequence 32, Appl	7	445	9	Sequence 15, Appl	ď	16,	35,		5298	Sequence 18, Appl	142	H	32,
SUMMARIES	118-09-414-010-2	-09-812-216	-080-882-080-	US-09-165-543-8		US-09-524-162-2	-08-985-	US-09-165-543-2	US-09-165-543-5	US-09-167-354-7	US-09-642-855-7	US-09-642-514-7	-08-982-	-60	US-08-833-226-2	US-09-107-532A-4457	08-985-	8	-09-165-	09-165-54	US-09-165-543-35	US-09-177-249-243	9	US-09-087-232A-18	09-489	- 1	US-08-466-886-32
DB	~	4	0	m	٣	4	~	m	m	٣	4	4	7	æ	N	4	7	7	m	m	m	m	4	m	4	m	Н
Length	790	0 0 0	19	19	19	351	445	445	445	445	445	445	362	362	384	252	22	22	22	22	22	34	57	87	96		110
% Query Match		4.	2.8	2.8		2.8		٠	2.8			2.8		2.3	•		•	1.8	•	•	1.8	•	•		•	1.8	1.8
Score	21	21	11	11	11	11	11	11	11	11	11	11	6	Q	σ	00	7	7	7	7	7	7	7	7	7	7	7
Result No.		5	٣	4	2	9	7	8	6	10	11	12	13	14	15	16	17	18			21	22	23	24	25	56	27

Sequence 32, Appl		Sequence 9, Appli	Sequence 4, Appli	Sequence 9376, Ap	Sequence 4, Appli	Sequence 4, Appli	Sequence 17, Appl	6, 19	Sequence 8543, Ap	Sequence 27758, A	Sequence 8, Appli	Sequence 31019, A	Sequence 30502, A	Sequence 6, Appli	Sequence 9, Appli	15,
US-08-469-617-32 TIS-09-489-039A-8669	US-09-252-991A-31678	US-08-896-365-9	US-08-833-752-4	US-09-489-039A-9376	US-08-753-159A-4	US-09-133-735-4	US-09-087-232A-17	US-08-833-752-6	US-09-489-039A-8543	US-09-252-991A-27758	US-08-896-365-8	US-09-252-991A-31019	US-09-252-991A-30502	US-08-466-103A-6	US-09-502-783A-9	US-08-244-646-15
в 4	4	N	4	4	N	٣	٣	4	4	4	7	4	4	7	4	П
110	146	153	184	194	212	212	215	215	224	233	257	260	263	288	329	342
8 6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
7 7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
2 2	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 5.4%; Score 21; DB 3; Length 390; Best Local Similarity 100.0%; Pred. No. 2e-11; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Hedrick, Joseph A.
APPLICANT: Honnas M.
APPLICANT: Monsea, Frederick J. Jr.
APPLICANT: Morse, Kelley L.
APPLICANT: Whand, Shelby P.
APPLICANT: Unland, Shelby P.
APPLICANT: Unland, Shelby P.
TILE REFERENCE: CN01069
CURRENT APPLICATION WUMBER: US/09/414,010
CURRENT APPLICATION NUMBER: US/09/414,010
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2. Application US/09812216
Petent No. 6613533
GENERAL INFORMATION:
APPLICANT: Behan, Jiang Xu
APPLICANT: Behan, Jiang Xu
APPLICANT: Baz, Thomas M.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Worse, Kelley L.
APPLICANT: Wand, Suke
ITTLE OF INVENTION: Histamine receptor
FILE REFERENCE: CN01069
CURRENT APPLICATION NUMBER: US/09/812,216
CURRENT APPLICATION NUMBER: 09/414,010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93 TDYLLCTASVYNIVLISYDRY 113
                 Sequence 2, Application US/09414010
Patent No. 6204017
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens US-09-414-010-2
                                                                                                                                                                                                                                                                                                                                                                                                                                        390
US-09-414-010-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-812-216-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
```

..

```
02109
                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-165-543-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                               ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                  Sequence 8, Application US/08985090
Patent No. 5885893
GENERAL INFORMATION:
TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
HORRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                          5.4%; Score 21; DB 4; Length 390;
100.0%; Pred. No. 2e-11;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 2.8%; Score 11; DB 2; I
Best Local Similarity 100.0%; Pred. No. 0.0028;
Matches 11; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFRENCE/DOCKET NUMBER: MNI-032
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                        93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
US-09-165-543-8
Sequence 8, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
PRIOR FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPAX: (61)//2
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-985-090-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 28 State Stre
CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 LNLAISDFLVG 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
                                                   SEQ ID NO 2
LENGTH: 390
                                                                                                                                                                                                                                                                                                                  RESULT 3
US-08-985-090-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                         us-09-812-216-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                  à
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
US-09-165-543-15

Sequence 15, Application US/09165543

Sequence 15, Application US/09165543

Patent No. 609345

GENERAL INFORMATION:

APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman

TILLE OF INVENTION: Muscarinic Receptors and Uses Therefor

NUMBER OF SEQUENCES: 39

CORRESPONDENCE ADDRESS:

ADDRESSER: LAHIVE & COCKFIELD, LLP

STREET: 28 State Street

CITY: Boston

STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                Andrew D.J. Goodearl and Sandra Glucksman
JENTION: Muscarinic Receptors and Uses Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.25
CUBRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 11; DB 3; I
Pred. No. 0.0028;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 2.8%; Score 11; DB Best Local Similarity 100.0%; Pred. No. 0.0 Matches 11; Conservative 0; Mismatches
APPLICANT: Angle:
TITLE OF INVENTION: Muscal...
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRADED: ACATHRAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
CLASSIFICATION:
PRICR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (617) 742-4214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: peptide
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LNLAISDFLVG 12
                                                                                                                                                                                                                                                                                                                                                                Massachusetts
: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
TOPOLOGY: linear
```

.

```
Sequence 2. Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
CITY: Boston
STREET: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 2.8%; Score 11; DB 2; Length 445; Best Local Similarity 100.0%; Pred. No. 0.045; Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.8%; Score 11;
                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Jean M. Silveri
REGISTRATION WIMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI-032
TELECHONE: (6.77)227-7400
TELEPHONE: (6.77)277-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORREY/AGENT INPORMATION:
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION:
TELEPHONE: (617)227-7400
                        CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
                                                                                                                                                                                                                                                                            TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 445 amino acids TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       : 445 amino acids amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (617) 227-740
TELEFAX: (617) 742-4214
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                         ; MOLECULE TYPE: protein US-08-985-090-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein US-09-165-543-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-165-543-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-985-090-2

Sequence 2, Application US/08985090

Parent No. 5886383

GENERAL INFORMATION:

APPLICANT: Andrew D.J. Goodearl

TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28

CORRESPONDENCESS: ADDRESS:

ADDRESSEE: LAHIVE & COCKPIELD, LLP

STREET: 28 State Street

CITY: Boston

STRATE: Massachusetts

COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                             ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match
2.8%; Score 11; DB 4; Length 351;
Best Local Similarity 100.0%; Pred. No. 0.037;
Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                         Query Match 2.8%; Score 11; DB 3; Length 19; Best Local Similarity 100.0%; Pred. No. 0.0028; Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-524-162-2

Sequence 2, Application US/09524162

Sequence 2, Application US/09524162

Patent No. 635542

GENERAL INFORMATION:

APPLICANT: Ping Tsui

TITLE OF INVENTION: HUMAN HISTAMINE H3 GENE VARIANT-2

FILE REFERENCE: GP-70681

CURRENT APPLICATION NUMBER: US/09/524,162

CURRENT FILING DATE: 2000-03-13

NUMBER OF SEQ ID NOS: 2

SOFTWARE: FASEUSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: PC SYSTEM: PC-DOS/MS-DOS
COFFWARE: Patentin Release #1.0, Version #1.25
ATTORNEY/AGENT INFORMATION:

ATTORNEY/AGENT INFORMATION:

NAME: Blizabeth A. Hanley

REGISTRATION NUMBER: 33,505

REFERENCE/DOCKET NUMBER: MNI-032CP

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELEFRAX: (617)722-4214

INFORMATION FOR SEQ ID NO: 15:

SEQUENCE CHARACTERISTICS:

LENGTH: 19 amino acids
                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
CORGANISM: HOMO SAPIENS
US-09-524-162-2
                                                                                                                                                                                                                                                            TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                US-09-165-543-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 2
LENGTH: 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

Length 445;

ó

Gaps

·,

```
US-09-642-514-7; Sequence 7, Application US/09642514; Patent No. 6437100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Artificial Sequence
                                                                                           ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 8 SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 7
                      SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
LENGTH: 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                      55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74 LNLAISDFLVG
         NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INCORMATION:
APPLICANT: Lovenberg, Timothy
APPLICANT: Exlander, Mark
APPLICANT: Byati, Jayashree
APPLICANT: Byati, Jayashree
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/167,354A
CURRENT FILING DATE: 1998-10-07
                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                              ö
                                                                                                                                                                                      Sequence 5, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.8%; Score 11; DB 3; Length 445; 100.0%; Pred. No. 0.045; ive 0; Mismatches 0; Indels
Pred. No. 0.045; O. Indels
                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
FILING DATE:
         100,0%; Preu. ....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REGISTRATION NUMBER: MNI-032CP
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION:
TELECHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                            ADDRESSEE: LAHIVE & COCKFIELD, LLP STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 7, Application US/09167354A Patent No. 6136559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECONOMICS (617)24.7...
TELEPHONE: (617)24.414
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 445 amino acids
TVPE: amino acids
TVPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 10v...
Best Local 11; Conservative
                                  11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein US-09-165-543-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                             STREET: 28 State Stre
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                           74 LNLAISDFLVG 84
                                                                    55 LNLAISDFLVG 65
               Best Local Similarity
Matches 11; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                      02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
US-09-167-354-7
                                                                                                                                                               RESULT 9
US-09-165-543-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                          g
```

```
ö
                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                     Sequence 7, Application US/09642855

| Sequence 7, Application US/09642855
| Patent No. 6413743
| Patent No. 6413743
| Patent No. 6413743
| Applicant: Lovenberg, Timothy
| Applicant: Lovenberg, Timothy
| Applicant: Lovenberg, Mark
| Applicant: Huvar, Arne
| TITLE OF INVENTION: UNB ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
| TITLE OF INVENTION: SUBTYPE
| TITLE OF INVENTION: 2000-08-21
| TITLE OF INVENTION: 2000-08-21
| PRIOR PAPLICATION NUMBER: 09/167,354
| PRIOR PAPLICATION NUMBER: 09/167,354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lovenberg, Timothy
APPLICANT: Lovenberg, Timothy
APPLICANT: Elander, Mark
APPLICANT: Elander, Mark
APPLICANT: Pyati, Jayashree
APPLICANT: Huvar, Arne
APPLICANT: BYATION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: ORF1290
CURRENT PAPLICATION NUMBER: US/09/642,514
CURRENT FILING DATE: 1000-08-21
PRIOR PILING DATE: 1009-10-06
                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .,
0
                                                                                                                                         ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: Description of Artificial Sequence: PEPTIDE US-09-642-855-7
CTHER INFORMATION: Description of Artificial Sequence: PEPTIDE US-09-167-354-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 445;
                                                                               Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match
2.8%; Score 11; DB 4; Length 445
Best Local Similarity 100.0%; Pred. No. 0.045;
Matches 11; Conservative 0; Mismatches 0; Indels
                                                                               Query Match 2.8%; Score 11; DB 3; Length 445
Best Local Similarity 100.0%; Pred. No. 0.045;
Matches 11; Conservative 0; Mismatches 0; Indels
```

LENGTH: 445

```
Sequence 2. Application US/08833226

Patent No. 589720

GENERAL INFORMATION.

APPLICANT: Moore, Karen
APPLICANT: Woolf, Elizabeth
TITILE OF INVENTION: WOOLF, Elizabeth
TITILE OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSE: Pennie & Edmonds LLP
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10036/2711
                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.3%; bcc.
100.0%; Pred. No. 2...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 9; DB 3;
Pred. No. 2.7;
                                                                                                                                                                                                                                                                                             CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Blizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: 33,505
TELECOMMUNICATION INFORMATION:
TELEFONE: (617)227-7400
TELEFAX: (617)227-7411
INFORMATION FOR SEQ ID NO: 32:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FASTSO Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/833,226
FILING DATE: 17-APR-1997
CLASSIFICATION: 514
                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/NS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
NAME: Coruzzi, Laura A.
REGISTRATION NUMBER: 30,742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 362 amino acids
TYPE: amino acid
                        ADDRESSEE: LAHIVE & CO
STREET: 28 State Stree
CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 2.3
Best Local Similarity 100.
Matches 9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-165-543-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            104 NIVLISYDR 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41 NIVLISYDR 49
                                                                                                        USA
                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                          02109
                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-833-226-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                 ·,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ·:
                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                           US-08-985-090-5

Sequence 5, Application US/08985090

Sequence 5, Application US/08985090

Parent No. 5885893

GENERAL INFORMATION:

APPLICANT: Andrew D.J. Goodearl

TITLE OF INVENTION:

NUMBER OF SEQUENCES: 28

CORRESPONDENCE ADDRESS:

ADDRESSEE: LAHIVE & COCKFIELD, LLP

STREET: 28 State Street

CITY: Boston

STATE: Massachusetts

COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                           ; OTHER INFORMATION: Description of Artificial Sequence:PEPTIDE US-09-642-514-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 32, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
                                                                                                                    2.8%; Score 11; DB 4; Length 445, 100.0%; Pred. No. 0.045; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.3%; Score 9; DB 2;
100.0%; Pred. No. 2.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. ... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MNI-032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: PM.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFRX: (617)742-4214
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : 362 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.
                                                                                                                                                             11; Conservative
                                                                                                                                                                                                 55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: protein US-08-985-090-5
                                                                                                                                                                                                                              74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        104 NIVLISYDR 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41 NIVLISYDR 49
                                                                                                                                    Best Local Similarity
Matches 11; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-165-543-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                      Query Match
                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
```

; 0

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
AADDRESSE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
```

```
0; Gaps
                                                                                                                                                                                                                                                                                   Length 384;
                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                       Query Match 2.3%; Score 9; DB 2;
Best Local Similarity 100.0%; Pred. No. 2.9;
Matches 9; Conservative 0; Mismatches
REFERENCE/DOCKET NUMBER: 7853-080
TELECOMMUNICATION INFORMATION:
TELEFAX: 212-969-9090
TELEFAX: 212-869-8864
TELEX: 66141 PENNIE
TELEX: 66141 PENNIE
SEQUENCE CHARACTERISTICS:
LENGTH: 384 amino acids
TYPE: amino acid
STRANDEDNESS:
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: unknown
WOLECULE TYPE: protein
US-08-833-226-2
                                                                                                                                                                                                                                                                                                                                                                    56 NLAISDFLY 64
                                                                                                                                                                                                                                                                                                                                                                           δ
```

; 0

Search completed: October 1, 2004, 10:30:22 Job time : 33 secs

|||||||||| 94 NLAISDFLV 102

qq

```
October 1, 2004, 10:29:06; Search time 134 Seconds (without alignments) 938.981 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                          1 MSESNSTGILPPAAQVPLAF......WKILCVTKWPALSQNQSVSS 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Published Applications AA:*

| cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/2/pubpaa/US06_NEW PUB.pep:*
3: /cgn2_6/ptodata/2/pubpaa/US06_NEW PUB.pep:*
4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/2/pubpaa/US07_NEW PUB.pep:*
6: /cgn2_6/ptodata/2/pubpaa/US07_NEW PUB.pep:*
7: /cgn2_6/ptodata/2/pubpaa/US08_NEW PUB.pep:*
8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
11: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
11: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
12: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
13: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
14: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
15: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
16: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
17: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
18: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
18: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
18: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1351062
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1351062 seqs, 321799191 residues
                                                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                        OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                  US-10-626-445-8
391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                            Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Word size :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database :
                                                                                                                                                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                     Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	ជ	6 Appli	2. Appli	2 Appli	6. Appli	. ~	4	. 4	, ,	629 Ann	27 Ann		2 4001	Semience 14 April	14, 45,1	Æ
	Description	free A enterines.	Sequence 2. Ann.	Segmence	Semience 6.	Segmence	Segmence	Segmence	Segmence	Semience 629	Segment 27	Sequence 14	Semience	Segmenter	Semience 14	Sequence
SUMMARIES	ID	0 US-09-782-974C-6	US-09-910-411-2	0 US-09-852-165-2	0 US-09-891-138A-6	2 US-10-349-253A-2	2 US-09-875-076-14	2 US-09-876-252-14	3 US-10-052-193-2	4 US-10-225-567A-629	4 US-10-290-078-27	4 US-10-272-983-14	4 US-10-354-769-2	4 US-10-393-807-14	5 US-10-417-820A-14	6 US-10-696-673-2
ole	Query Match Length DB	73 1	390	390	390 1	390 1	390 1	390 1	390 1	390	390	390 1	390 1	390	390	390
	Query Match 1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	Score	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
	Result No.	1	7	ĸ	4	2	9	7	8	6	10	11	12	13	14	15

Sequence 14, Appl	N	Н	m	8	15	8		8	15	8	7	Ä	Н		٠,			Sequence 2, Appli	(0)	່໙		'n	e 545	-		m	equence 7.	20,	Sequence 13, Appl
6 US-10-	6 US-10-737-61	6 US-10-782-59	16 US-10-398-036-3	9 US-09-350-206-8		US-09-349-75	US-09-349-7	5	9 US-09-166-334-15		US-10-282-9	-	12 US-09-891-053-1	US-09-3	9 US-09-350-206-5	US-09-349-755-	US-09-349-7	-09-166-334-	9 US-09-166-334-5		US-10-28	-10-28	14 US-10-225-567A-549	16 US-10-453-106-1	US-10-453-		16 US-10-727-021-7	-09-891-05	14 US-10-067-649-13
390	390	390	441	19	19	19	19	19	19	19	13	168	413	445	445	445	445	445	445	445	445	445	445	445	445	445	445	453	
5.4	5.4	5.4		2.8				•		٠									•									2.8	
21	21	21	21	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	თ
16	17	18	19	20	21	22	23	24	25	56	27	28	53	30	31	32	33	34	35	36	37	88	36	40	41	42	43	44	45

ALIGNMENTS

```
RESULT 1

US-09-782-974C-6

Sequence 6, Application US/09782974C

Sequence 6, Application Wo. US2030082534A1

GENERAL INFORMATION:

APPLICANT: Vogeli, Gabriel

APPLICANT: Under S.

APPLICANT: Davod, Linda S.

APPLICANT: Parodi, Luis A.

TITLE OF INVENTION: No. US2030082534A1el G Protein Coupled Receptor PILE REFERENCE: 1105PHA311

CURRENT FILING DATE: 2000-09-09

PRIOR FILING DATE: 2000-11-16

PRIOR APPLICATION NUMBER: 60/165,838

PRIOR APPLICATION NUMBER: 60/165,838

PRIOR APPLICATION NUMBER: 60/199,568

PRIOR PLILING DATE: 2000-04-20

PRIOR PLILING DATE: 1999-11-17

PRIOR PLILING DATE: 1999-11-17

PRIOR PLILING DATE: 1999-11-17

PRIOR PLILING DATE: 1999-11-17

PRIOR PLILING DATE: 2000-04-20

PRIOR PLILING DATE: 2000-04-20

PRIOR PLILING DATE: 1999-11-17

PRIOR PLILING DATE: 1999-11-17

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-29

PRIOR PLILING DATE: 2000-02-39

PRIOR PLILING DATE: 2000-02-39

PRIOR PLILING DATE: 2000-02-39

PRIOR PLILING DATE: 2000-03-31

SEDO ID NO 6

LENGTH: 73
```

```
RESULT 5
US-10-349-253A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                            g
                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application US/09852165
Sequence 2, Application US/09852165
Publication No. US20030032784A1
GENERAL INFORMATION:
APPLICANT: Lind, Peter
APPLICANT: Sejlitz, Torsten
APPLICANT: Wogeli, Gabriel
APPLICANT: Wood, Linda S.
TITLE OF INVENTION: No. US20030032784A1e1 G Protein-Coupled Receptors
FILE REFERENCE: 00231regUS
CURRENT APPLICATION NUMBER: US/09/852,165
CURRENT PILING DATE: 2001-05-08
PRIOR FILING DATE: 2000-05-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FALENT NO. D. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O. S. O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5.4%; Score 21; DB 9; Length 390; 100.0%; Pred. No. 1.3e-11; tive 0; Mismatches 0; Indels
                                                                                                                                    Query Match

5.4%; Score 21; DB 10; Length 73;

Best Local Similarity 100.0%; Pred. No. 3e-12;

Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                        93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                            31 TDYLLCTASVYNIVLISYDRY 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 2, Application US/09910411; Patent No. US20020137054A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 3
SOFTWARE: Patentin version 3.0
SEQ ID NO 2
LENOTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                            US-09-782-974C-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-852-165-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-910-411-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 2
US-09-910-411-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 2
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                ð
```

```
0
                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTHER INFORMATION: human TGR62 G-protein coupled receptor (GPCR) US-09-891-138A-6
                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.4%; Score 21; DB 10; Length 390;
100.0%; Pred. No. 1.3e-11;
tive 0; Mismatches 0; Indels
     Length 390;
                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Li, Xiatong
APPLICANT: Michalovich, David
APPLICANT: Morcow, Dwight
APPLICANT: Morcow, Dwight
APPLICANT: AND YOUR
APPLICANT: AND YOUR
TITLE OF INVENTION: AXORS5, A G-Protein Coupled Receptor
FILE REFERENCE: G770655-222
CURRENT PELICATION NUMBER: US/10/349,253A
CURRENT FILING DATE: 2003-01-21
                                                                                                                                                                                                                                                          Sequence 6, Application US/09891138A
Sequence 6, Application US/09891138A
Sequence 6, Application No. US20030083245A1
GENERAL INFORMATION:
APPLICANT: Lin, Daniel Chi-Hong
APPLICANT: Chen, Jin-Long
APPLICANT: Chen, Jin-Long
APPLICANT: Tularik Inc.
TITLE OF INVENTION: No. US20030083245A1el Receptors
TITLE OF INVENTION: No. US20030083245A1el Receptors
FILE REFERENCE: 018781-006210US
CURRENT APPLICATION NUMBER: US 60/213,461
PRIOR PILING DATE: 2001-06-25
PRIOR FILING DATE: 2000-06-23
NUMBER OF SEQ ID NOS: 26
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 6
LENGTH: 390
5.4%; Score 21; DB 10; I
100.0%; Pred. No. 1.3e-11;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CUCKENT FILING DATE: 2003-01-21

PRIOR APPLICATION NUMBER: 09/910,411

PRIOR FILING DATE: 2001-07-20

PRIOR FILING DATE: 2000-020

PRIOR FILING DATE: 2000-020

PRIOR FILING DATE: 2000-020

PRIOR FILING DATE: 2000-02-03

PRIOR APPLICATION NUMBER: 09/497,790

PRIOR APPLICATION NUMBER: 09/497,790

PRIOR PILING DATE: 1999-11-02

NUMBER OF SEQ ID NOS: 2

SEQ ID NO 2

LENGTHARE: FASTSEQ FOR WINDOWS Version 4.0

SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                     93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                     TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/10349253A Publication No. US20040043393A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bergsma, Derk
Fitzgerald, Laura
Graybill, Todd
       Query Match
Best Local Similarity 100.
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100.
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Aubart, Kelly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
```

m

```
q
                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                .;
0
                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                             .;
0
                                                                                                                              Query Match 5.4%; Score 21; DB 12; Length 390; Best Local Similarity 100.0%; Pred. No. 1.3e-11; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Dang, Huong T.
APPLICANT: Liaw, Chen W.
APPLICANT: Liaw, Chen W.
APPLICANT: Lin, 1-Lin
TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: ARENO050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/875,076
CURRENT FILING DATE: 2001-06-06
PRIOR APPLICATION NUMBER: 09/417,044
PRIOR FILING DATE: 1999-10-12
PRIOR PILING DATE: 1999-02-16
PRIOR PILING DATE: 1999-02-26
PRIOR PILING DATE: 1999-02-26
PRIOR PILING DATE: 1999-03-12
PRIOR APPLICATION NUMBER: 60/123,946
PRIOR FILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING DATE: 1399-03-12
PRIOR FILING DATE: 1399-03-12
PRIOR FILING DATE: 1399-03-12
PRIOR FILING DATE: 1399-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PILING DATE: 1999-05-28
PRIOR APPLICATION NUMBER: 60/136,439
PRIOR FILING DATE: 1999-05-28
PRIOR PILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR PRILING DATE: 1999-05-28
PRIOR PRILING DATE: 1999-05-28
PRIOR PRILING DATE: 1999-05-28
PRIOR PRILING DATE: 1999-05-29
PRIOR PRILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
                                                                                                                                                                                                                                                                       93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                              93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14, Application US/09875076
Publication No. US20030017528A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Chen, Ruoping APPLICANT: Dang, Huong 7
TYPE: PRT
ORGANISM: Homo sapien
                                                                    US-10-349-253A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-875-076-14
                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                  d
```

```
APPLICANT: Liaw, Chem W.
TITLE OF INVENTION: Non-Endogenous Constitively Activated Human G Protein Coupled Rece
FILE REFERENCE: AREN-0054
                                                                                                                                                                          0
                                                                                                                                                                       Gaps
                                                                                                                                                                       ·,
                                                                                                      Length 390;
                                                                                                                                                                    Indels
                                                                                               ch 5.4%; Score 21; DB 12; I Similarity 100.0%; Pred. No. 1.3e-11; 21; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THIS REFERENCE AND NUMBER: US/09/876,252
CURRENT FILING DATE: 2001-06-07
PRIOR APPLICATION NUMBER: 09/416,760
PRIOR APPLICATION NUMBER: 09/416,760
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-10-13
PRIOR FILING DATE: 1998-11-27
PRIOR FILING DATE: 1998-11-27
PRIOR FILING DATE: 1998-11-27
PRIOR FILING DATE: 1999-02-16
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR APPLICATION NUMBER: 60/123,944
PRIOR PRIOR APPLICATION NUMBER: 60/123,945
PRIOR PRIOR DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR PRIOR DATE: 1999-03-12
PRIOR APPLICATION NUMBER: 60/136,436
PRIOR PRIOR DATE: 1999-05-28
PRIOR APPLICATION NUMBER: 60/136,439
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR PRIOR DATE: 1999-05-28
PRIOR PRIOR PRIOR DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Behan, Dominic P.
APPLICANT: Lehmann-Bruinsma, Karin
APPLICANT: Chalmers, Derek T.
APPLICANT: Lowitz, Kevin P.
APPLICANT: Lin, I-Lin
APPLICANT: Chang, Huong T.
APPLICANT: Chen, Ruoping
APPLICANT: Liaw, Chen W.
                                                                                                                                                                                                                              93 TDYLLCTASVXNIVLISYDRY 113
                                                                                                                                                                                                                                                                                               93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
US-09-876-252-14
US-09-876-252-14
; Sequence 14, Application US/09876252
; Publication No. US20030018182A1
; GENERAL INFORMATION:
; ORGANISM: Homo sapiens
US-09-875-076-14
                                                                                            Query Match
Best Local Similarity
Matches 21; Conserv
```

```
Sequence 27, Application US/10290078

Publication No. US20030124596A1

GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Hematological Disorders Using 232, 2059, 10630, 12848, 13875,
TITLE OF INVENTION: Hematological Disorders Using 232, 2059, 10630, 12848, 13875,
TITLE OF INVENTION: 14395, 14618, 17692 or 58874

FILE REFERENCE: MPI2001-288P1(M)
CURRENT APPLICATION NUMBER: US/10/290,078
CURRENT FILING DATE: 2002-11-07
NUMBER OF SEQ ID NOS: 27
SOFUTMARE: FRAESEQ for Windows Version 4.0
SSOFUTM 27
LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 11
US-10-272-983-14

i Sequence 14, Application US/10272983

sequence 14, Application US/10272983

spublication No. US20030148450A1

spublication No. US20030148450A1

spepLICANT: Chen W.

APPLICANT: Liaw, Chen W.

APPLICANT: Liaw, Chen W.

TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: ARENOSO

CURRENT FAPLICATION NUMBER: US/10/27,983

CURRENT FILING DATE: 1999-10-12

PRIOR APPLICATION NUMBER: 60/109,213

PRIOR PILING DATE: 1999-10-12

PRIOR APPLICATION NUMBER: 60/120,416

PRIOR FILING DATE: 1999-02-16

PRIOR FILING DATE: 1999-02-16

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-03-12

PRIOR FILING DATE: 1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ..
                                                                                                                                                                                                                                                                                                                                                                                ..
                                                                                                                                                                                                                                                                                                                        5.4%; Score 21; DB 14; Length 390;
100.0%; Pred. No. 1.3e-11;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.4%; Score 21; DB 14; Length 390; 100.0%; Pred. No. 1.3e-11; tive 0; Mismatches 0; Indels
CURRENT APPLICATION NUMBER: US/10/225,567A
CURRENT FILING DATE: 2001-12-19
PRIOR PPLLING DATE: 2000-12-19
PRIOR FILING DATE: 2000-12-19
NUMBER OF SEQ ID NOS: 2292
SOFTWARE: Patentin version 3.1
SEQ ID NO 629
LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                         93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.0
Matches 21; Conservative
                                                                                                                                                                                                                                                  GRGANISM: Homo sapiens
US-10-225-567A-629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Homo Sapien
US-10-290-078-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-290-078-27
                                                                                                                                                                                                                           TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: LifeSpan Biosciences
APPLICANT: Brown, Joseph P.
APPLICANT: Burmer, Glenna C.
APPLICANT: Burmer, Glenna C.
TITLE OF INVENTION: ANTIGENIC PEPTIDES AND ANTIBODIES FOR G PROTEIN-COUPLED RECEPTORS
FILE REPERENCE: 1920-4-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 5.4%; Score 21; DB 13; Length 390; Best Local Similarity 100.0%; Pred. No. 1.3e-11; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JERUGANT: PÉTZER, INC.

TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS

TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS

TITLE OF INVENTION: HISTAMINE RECEPTOR ANTAGONISTS

CURRENT APPLICATION NUMBER: US/10/052,193

CURRENT FILING DATE: 2002-01-17

PRIOR PELICATION NUMBER: 0101223.6

PRIOR FILING DATE: 2001-01-17

NUMBER OF SEQ ID NOS: 10

SOFTWARE: PATENTIN Ver. 2.1

SEQ ID NO 2

LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.4%; Score 21; DB 12; L
100.0%; Pred. No. 1.3e-11;
tive 0; Mismatches 0;
           PRIOR APPLICATION NUMBER: 60/156,555
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR FILING DATE: 1999-09-29
PRIOR APPLICATION NUMBER: 60/156,653
PRIOR PILING DATE: 1999-09-29
PRIOR PELING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR FILING DATE: 1999-10-01
PRIOR APPLICATION NUMBER: 60/157,281
PRIOR FILING DATE: 1999-10-01
PRIOR APPLICATION NUMBER: 60/157,281
PRIOR PELING DATE: 1999-10-01
PRIOR APPLICATION NUMBER: 60/157,282
PRIOR FILING DATE: 1999-10-01
PRIOR SPELICATION NUMBER: 60/157,282
PRIOR FILING DATE: 1999-10-01
PRIOR SPELICATION NUMBER: 60/156,633
PRIOR FILING DATE: 1999-100-01
PRIOR SPELICATION NUMBER: 60/156,633
PRIOR FILING DATE: 1999-100-01
PRIOR SPELICATION NUMBER: 60/156,633
PRIOR FILING DATE: 1999-100-01
PRIOR SPELICATION NUMBER: 60/156,633
PRIOR FILING DATE: 1999-100-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-225-567A-629
Sequence 629, Application US/10225567A
Publication No. US20030113798A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93 TDYLLCTASVXNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/10052193
Publication No. US20020132755A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-876-252-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-052-193-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ÚS-10-052-193-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
```

g 8

ð g

TYPE: PRT

Query Match

임

```
Sequence 14, Application US/10417820A

Fublication No. US20030229216A1

GENERAL INFORMATION:

APPLICANT: Chen, Ruoping

APPLICANT: Chen, Ruoping

APPLICANT: Liaw, Chen W.

APPLICANT: Lowitz, Kevin

APPLICANT: Lowitz, Kevin

APPLICANT: Chalmers, Dominic P.

TITLE OF INVENTION: Constitutively Activated Human G Protein Coupled

TITLE OF INVENTION: Constitutively Activated Human G Protein Coupled

FILE REFERENCE: 7.US28.CON

CURRENT FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-10-13

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-11-20

PRIOR FILING DATE: 1999-11-20

PRIOR FILING DATE: 1999-11-20

PRIOR FILING DATE: 1999-11-20

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-36

PRIOR FILING DATE: 1999-02-36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 74 SOFTWARE: PatentIn Ver. 2.1
                                                                                                       TITLE OF INVENTION: Human Orphan G Protein Coupled Receptors
FILE REFERENCE: ARENOOSO
CURRENT APPLICATION NUMBER: US/10/393,807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 21; DB 14; Length 390;
Pred. No. 1.3e-11;
0; Mismatches 0; Indels
                                                                                                                                                                                                                        CURRENT FILING DATE: 2003-03-21

PRIOR APPLICATION NUMBER: US/09/417,044

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1999-10-12

PRIOR FILING DATE: 1998-11-20

PRIOR FILING DATE: 1998-11-20

PRIOR FILING DATE: 1998-11-20

PRIOR PILING DATE: 1999-02-16

PRIOR PILING DATE: 1999-02-16

PRIOR PILING DATE: 1999-02-26

PRIOR FILING DATE: 1999-02-16

PRIOR FILING DATE: 1999-03-12

PRIOR FILING DATE: 1999-03-12

PRIOR FILING DATE: 1999-03-12

PRIOR FILING DATE: 1999-03-12

PRIOR FILING DATE: 1999-03-12

PRIOR PILING DATE: 1999-03-12

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/123,945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match

Best Local Similarity 100.0%; P.
Matches 21; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1999-03-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
US-10-417-820A-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-393-807-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 390
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
PRIOR APPLICATION NUMBER: 60/136,436

PRIOR APPLICATION NUMBER: 60/136,436

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR PLING DATE: 1999-05-28

PRIOR PLING DATE: 1999-05-28

PRIOR PLING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR PLING DATE: 1999-05-28

PRIOR PLING DATE: 1999-05-28

PRIOR PLING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999-05-28

PRIOR FILING DATE: 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.4%; Score 21; DB 14; Length 390;
100.0%; Pred. No. 1.3e-11;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.4%; Score 21; DB 14; Length 390; Best Local Similarity 100.0%; Pred. No. 1.3e-11; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-354-769-2

Sequence 2, Application US/10354769

Publication No. US20030149242A1

GENERAL INFORMATION:
APPLICANT: Pfizer Inc.
APPLICANT: Poreilly, Mark A.
APPLICANT: Perer, Beate
TITLE OF INVENTION: NOVEL POLYPEPTIDE
FILE REFRENCE: PC10373B

CURRENT PELICATION NUMBER: US/0354,769

CURRENT PELING DATE: 2003-01-30

PRIOR FILING DATE: 2000-06-14

PRIOR APPLICATION NUMBER: US 60/211,243

PRIOR FILING DATE: 2000-06-14

PRIOR APPLICATION NUMBER: GB 9925641.4

PRIOR APPLICATION NUMBER: GB 925641.4

PRIOR FILING DATE: 1999-10-29

PRIOR FILING DATE: 2000-06-14

PRIOR APPLICATION NUMBER: GB 925641.4

PRIOR FILING DATE: 2000-06-16

NUMBER OF SEQ ID NOS: 10

SOFTWARE: PATENTIN DATE: 2000-04-20

NUMBER OF SEQ ID NOS: 10

SOFTWARE: PATENTIN VERSION 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-393-807-14
Sequence 14, Application US/10393807
Publication No. US20030175891A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Chen, Ruoping
APPLICANT: Dang, Huong T
APPLICANT: Liaw, Chen W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-272-983-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 2
LENGTH: 390
```

US-10-354-769-2

0;

Gaps

```
;
0
                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                               Gaps
PRIOR FILING DATE: 1999-03-12
PRIOR APPLICATION NUMBER: 60/123,948
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
PRIOR FILING DATE: 1999-03-12
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 155
SOFTWARE: Patentin version 3.2
SOFTWARE: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.4%; Score 21; DB 16; Length 390; Best Local Similarity 100.0%; Pred. No. 1.3e-11; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                   Query Match 5.4%; Score 21; DB 15; Length 390; Best Local Similarity 100.0%; Pred. No. 1.3e-11; Matches 21; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                            93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                          93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
) CRGANISM: Homo sapiens
US-10-696-673-2
                                                                                                                                                 ORGANISM: Homo sapiens
US-10-417-820A-14
                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                 g
```

Search completed: October 1, 2004, 10:41:05 Job time : 135 secs

93 TDYLLCTASVYNIVLISYDRY 113

a

GenCore version 5.1.6 Copyright (c) 1993 - 2004 Compugen Ltd.	7 1.8 334 2 7 1.8 342 2 7 1.8 350 2
OM protein - protein search, using sw model	7 1.8 352 2 A43113 7 1.8 354 2 C45229 7 1 0 354 2 C45229
Run on: October 1, 2004, 10:23:00; Search time 41 Seconds (without alignments) 917.339 Million cell updates/sec	7 1.8 360 2 JC4587 Chemokine 7 1.8 360 2 JC45
Title: US-10-626-445-8 Perfect score: 391 Sequence: 1 MSESNSTGILPPAAQVPLAFWKILCVTKWPALSQNQSVSS 391	chemokine (C-C) N-acetylmuramoyl Mellb-melatonin Mel-1a melatonin
	7 1.8 371 2 A39234 7 1.8 371 2 A39234 7 1.8 373 1 OOFF
Searched: 283366 segs, 96191526 residues	
Word size : 0	ALIGNMENTS
Total number of hits satisfying chosen parameters: 283366	RESULT 1
Minimum DB seq length: 0 Maximum DB seq length: 2000000000	histamine H4 receptor, HH4R - human C:Species: Homo sapiens (man)
Post-processing: Listing first 45 summaries	C; Date: 30-Jun-2001 #sequence_revision 30-Jun-2001 #text_change 30-Jun-2001 C; Accession: JC7566
- E-	A. Norwallian 1.; Italani, H.; Hidaka, Y.; Ohta, M.; Tanaka, K. Biochem. Blochem. Bobbys. Res. Commun. 279, 615-620, 2000.
1: plrl:* 2: pir2:* 3: pir3:* 4: pir4.*	A.Reference number: JC7566; MUID: 20568725; PMID:11118334 A.Contents: Leukocyte A.Accession: JC7566
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution	A.Molecule type: mRNA A.Residues: 1-390 <nak> A.Fessidues: 1-390 <naks a.cross-references:="" amine="" belonging="" biogenic="" c.comment:="" ddb:ab045370="" g="" nrotein_county<="" of="" recentors="" receptor,="" td="" the="" this="" to=""></naks></nak>
SUMMARIES	A/denetics: A/denetics: A/denetics: A/denetics: A/denetics:
é	Onerw Match
score Match Length	5.4%; Scc Similarity 100.0%; Pr
390 2 JC7566 histamine 281 2 AB3523 icc proins 328 2 T2536 hypotheti	1; Conservative 0; Mismatches TDYLLCTASVYNIVLISYDRY 113
8 2.0 426 2 H75578 cysteine synt	Db 93 TDYLLCTASVYNIVLISYDRY 113
7 1.8 3.2 88839 histone H1 - sean	RESULT 2 AE3523
7 1.8 98 2 AG1960 hypothetical 7 1.8 103 2 Hanas	icc protein [imported] - Brucella melitensis (strain 16M) C;Species: Brucella melitensis
7 1.8 102 1 10.98 hypothetical hypothetical 7 1.8 111 2 716798	C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 02-Aug-2002 C;Accession: AE3523
7 1.8 156 2 7 1.8 159 2	R;DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanova, P.; Mazur, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S.; O'Callachan, D.: Tereses
7 1.8 172 2 D97764 7 1.8 173 2 D72586 7 1 8 213 2 D72586	443-448, 2002 ne facultative intracellular pathogen Brucella me
7 1.8 212 2 313293 7 1.8 226 2 727284	A; Accession: AB3523 A; Status: preliminary
7 1.8 228 2 A29347 7 1.8 231 2 DR3422	A; Molecule type: DNA A; Residues: 1-281 < KUR>
7 1.8 232 2 683609 probable transcri 7 1.8 254 2 D84559 probable transcri	A;Cross-references: GB:AE008918; PIDN:AAL53352.1; PID:g17984241; GSPDB:GN00191 A;Experimental source: strain 16M
7 1.8 257 2 A96546 7 1.8 271 2 B35407 7 1.8 280 2 D86870	C;Genetics: A;Gene_BEII0111 A;Map position: II
7 1.8 308 2 I50241 7 1.8 326 2 T04344	C;Superfamily: 3',5'-cyclic-nucleotide phosphodiesterase cpdA; 3',5'-cyclic-nucleotide pł
	Query Match 2.0%; Score 8; DB 2; Length 281;

NosX protein requipolygalacturanase-Nel-la melaconin rehemokine (C-C) reopsin, rod ultravionemokine (C-C) rechemokine (C-C) remokine (C-C) rechemokine (C-C)	NTS	RESULT 1 UC7566 Listamine H4 receptor, HH4R - human C;526ci Signal Sapiens (man) C;034ci Signal Sapiens (man) C;034ci Signal Sapiens (man) C;034ci Signal Sapiens (man) C;034ci Signal Sapiens (man) C;034ci Signal Sapiens (man) C;034ci Signal Signal Sapiens (man) C;034ci Signal Si
H95342 223764 223764 243113 745229 745229 745229 745229 745229 745229 745229 745229 74669 74669 74669 74669 74669	ALIGNMENTS	human revision 30-Jun-200 didaka, Y.; Ohta, M. 279, 615-620, 2000 characterization of the characterization of the characterization of the characterization of the characterization of the solution of the biogen; receptor; transmemby receptor; transmemby receptor; transmemby of the biogen; receptor; transmemby receptor; transmemby of the biogen; receptor; transmemby receptor; transmemby of the biogen; receptor; transmemby receptor; transmemby of the biogen; receptor; transmemby receptor; transmemby the biogen; receptor; transmemby receptor; transmemby the biogen; receptor; transmemby receptor; transmemby the biogen; receptor; transmemby receptor; transmemby the biogen; receptor; transmemby receptor; transmemby the biogen; transmemby transmemby the biogen; transmemby transmemby the biogen; transmemby transmemby the biogen; transmemby transme
		human revis idaka 279, char ID: 27 ID: 27 ID: 28 ID:
3313		um - hu han) hanc_re fit, Hid fit, Hid fit and c j; Muin j; Muin j; Muin j; Muin j; Muin j; Muin j; Muin j; Muin j; Muin j; Muin led re f; 5.4%; loo.0%
ппппппппппппппппп		#HH4. #################################
		H receptor, HH4R - human s: Homo saptens (man) 30-Jun-2001 #sequence_revisi con: JC7566 En T.; Itadani, H.; Hidaka, Bophys. Res. Commun. 279 Molecular cloning and chara ne number: JC7566; MUID: 20 con: JC7566 On: JC7566 On: JC7566 in: This receptor, belonging hAt is: This receptor, belonging hAt ls: G protein-coupled recept latch 21; Conservative 0; 31 TDYLLCTASVYNIVLISYDRY 93 TDYLLCTASVYNIVLISYDRY 93 TDYLLCTASVYNIVLISYDRY
		4 rec Homo Jun-2 J
ш ш ш ш ш ш ш ш ш ш ш ш ш ш ш ш ш ш ш		RESULT 1 JC7566 histamine H4 receptor, HH4R - human C; Species: Homo sapiens (man) C; Date: 30-Jun-2001 #sequence_revision 30-Jun-2001 C; Accession: JC7566 R; Nakamura. T; Iradani, H; Hidaka, Y; Ohta, M; Biochem: Biophys. Res. Commun. 279, 615-620, 2000 A; Title: Molecular cloning and characterization of A; Contents: Luckcoyte A; Contents: Luckcoyte A; Accession: JC7566 A; MOID: 20568725; PMID: 11 A; Accession: JC7566 A; Molecule Fype: mRNA A; Residues: 1-390 «NAK» A; Residues: 1-390 «NAK» A; Residues: 1-390 «NAK» A; Goment: This receptor, belonging to the biogenic C; Genetics: A; Gene: hAt C; Genetics: A; Grotein-coupled receptor; transmembra Query Match S; A; Conservative C; Fred. No. 4e-13; Matches 21; Conservative O; Mismatches O; D) 93 TDYLLCTASVYNIVLISYDRY 113 Db

0;

g ð

```
(xcp) genes in the plant growth-st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J.D.; Dodson, R.J.; F
T.; Zalewski, C.; Ma<sup>)</sup>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-426 <WHI>
A;Cross-references: GB:AE001863; GB:AE001825; NID:g6460670; PIDN:AAF12384.1; PID:g646067
A;Experimental source: strain R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (N-acetylneuraminyl)-galactosylglucosylceramide N-acetylgalactosaminyltransferase (EC 2 C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 10-Sep.1999 #sequence_revision 10-Sep-1999 #text_change 28-Jul-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Accession: A44128
C;Accession: A44128
R;Nagata, Y:; Yamashiro, S.; Yodoi, J.; Lloyd, K.O.; Shiku, H.; Furukawa, K.
Biol. Chem. 267, 12082-12089, 1992
A;Title: Expression cloning of beta 1,4 N-acetylgalactosaminyltransferase cDNAs that det
A;Reference number: A44128; MUID:92291088; PMID:1601877
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Species: O. 1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000
C;Accession: H75578
C;Accession: H75578
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R. R;White, O.; Eisen, J.A.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C. S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
A;Reference number: A75250; MUID:20036896; PMID:10567266
                                                                                                                           A;Molecule type: DNA
A;Residues: 1-400 <DEG>
A;Cross-references: EMBL:X81085; NID:g3293032; PIDN:CAA56981.1; PID:g531742
C;Genetics:
A;Gene: xcp5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 561;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                 Length 400,
                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         phenylacetyl-CoA ligase - Deinococcus radiodurans (strain R1)
R;de Groot, A.; Krijger, J.J.; Filloux, A.; Tommassen, v. Mol. Gen. Genet. 250, 491-504, 1996
A;Title: Characterization of type II protein secretion A;Reference number: S64724; MUD:96186881; PMID:8602167
A;Accession: S64729
                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                    DB 2;
8.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.0%; Score 8; DB 2
100.0%; Pred. No. 9.4
vative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                 ; Pred. No. 8.8
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Map position: 2
C;Superfamily: coenzyme F390 synthetase II
                                                                                                                                                                                                                                                                                                                    2.0%; Score 8;
100.0%; Pred. No
                                                                                                                                                                                                                                                                       C; Superfamily: secretion protein xcpS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  284 SESAALRO 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  377 SESAALRO 384
                                                                                                                                                                                                                                                                                                                                                                                                                                303 LARSLAIL 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LARSLAIL 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Status: preliminary A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: A44128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: H75578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Gene: DRA0256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Spinacia oleracea (spinach)
C;Species: Spinacia oleracea (spinach)
C;Decies: Spinacia oleracea (spinach)
C;Date: 10-Feb-1995 #sequence_revision 10-Feb-1995 #text_change 20-Jun-2000
C;Accession: A55450
R;Saito, K.; Tatsuguchi, K.; Takagi, Y.; Murakoshi, I.
J. Biol. Chem. 269, 28187-28192, 1994
A;Title: Isolation and characterization of cDNA that encodes a putative mitochondrion-ld A;Reference number: A55450; MUID:95050598; PMID:7961755
A;Accession: A55450
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Cross-references: GB:D37963; NID:g1066152; PIDN:BAA07177.1; PID:g1066153
A; Cross-references: GB:D37963; NID:g1066152; PIDN:BAA07177.1; PID:g1066153
C; Superfamily: threonine dehydratase
C; Superfamily: threonine dehydratase
C; Superfamily: mitochondrion) #status predicted <TPP>
F; 1-33/Domain: transit peptide (mitochondrion) #status predicted <TPP>
F; 34-368/Product: cysteine synthase C #status predicted
F; 90/Binding site: pyridoxal phosphate (Lys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-328 <WIL>
A;Cross-references: EMBL:Z49967; PIDN:CAA90256.1; GSPDB:GN00020; CESP:F54C9.11
A;Experimental source: clone F54C9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein secretion protein xcps - Pseudomonas putida
C;Species: Pseudomonas putida
C;Date: 06-Dec-1996 #sequence_revision 06-Dec-1996 #text_change 21-Jul-2000
(C;Accession: S64729; S47506
                                                                                                                                                                                                                                                                               hypothetical protein F54C9.11 - Caenorhabditis elegans
hypothetical protein F54C9.11 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C;Accession: T22G36
R;Sims, M.
Sibmitted to the EMBL Data Library, June 1995
A;Reference number: 219591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cysteine synthase (BC 4.2.99.8) C precursor, mitochondrial - spinach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 328;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                               Indels
                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.0%; Score 8; DB 2;
100.0%; Pred. No. 8.2;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2.0%; Score 8; DB 2;
100.0%; Pred. No. 7.4;
attive 0; Mismatches
                                       Pred. No. 6.4;
Mismatches
                                                                    .
0
                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              218 FSTTSSSA 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            219 STTSSSAS 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FSTTSSSA 33
                                                                                                                         225 ASGHLHRA 232
                                                                                                                                                                        191 ASGHLHRA 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STISSEAS 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
nes 8; Conserv
                                          Best Local Similarity
Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Map position: 2
A;Introns: 24/2; 92/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,Gene: CESP:F54C9.11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: T22636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
```

g à

ö

ö

Pred. No. 12;

ö

Gaps

0;

```
A,Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Anal A,Reference number: AB1807; MUD:21595285; PMID:11759840
A,Accession: AG1960
A,Status: preliminary
A,Molecule type: DNA
A,Residues: 1-98 AKUNX
A,Residues: 1-98 AKUNX
A,Residues: GB-BA000019; PIDN:BAB73191.1; PID:g17130581; GSPDB:GN00179
C,Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein NMA1503 [imported] - Neisseria meningitidis (strain 22491 serogroup Gispecies: Neisseria meningitidis
Gispecies: Neisseria meningitidis
Giste: 05-May-2000 #text_change 02-Feb-2001
Riparkhill: J. Achtman, M.; James, K.D.; Bentley, S.D.; Churcher, C.; Klee, S.R.; Morell Nature 404, 502-506, 2000
A,Title: Complete DNA sequence of a serogroup A strain of Neisseria menigitidis 22491.
A;Reference number: A81775; MUID:20222556; PMID:10761919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,Status: preliminary
A,Molecule type: DNA
A,Residues: 1-103 <PAR>
A,Cross-references: GB:AL162756; GB:AL157959; NID:g7380091; PIDN:CAB84735.1; PID:g738015(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Superfamily: Neisseria meningitidis hypothetical protein NMA1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 98
                                                                                                                                                                                                                                                                                                                                                                                                                                 1.8%; Score 7; DB 2;
100.0%; Pred. No. 26;
:ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
1.8%; Score 7; DB 2;
Best Local Similarity 100.0%; Pred. No. 27;
Matches 7; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
7; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   177 LTITMLL 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               307 LAILLSA 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       32 LTITMLL 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAILLSA 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                      A,Gene: asr1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: NMA1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Gene: NMB1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cispecies: Nostcos sp. PCC 7120
A;Note: Nostcos sp. PCC 7120
A;Note: Nostcos sp. strain PCC 7120
C;Accession: Ab2381
R;Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Tabata, S.
A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ana A; Preference number: AB1807; WIDD:21595285; PMID:11759840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         type I site-specific deoxyribonuclease chain R [imported] - Nostoc sp. (strain PCC 7120)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein asr1234 [imported] - Nostoc sp. (strain PCC 7120)
C.Species: Nostoc sp. PCC 7120
A.Note: Nostoc sp. ptc 7120
C.Species: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccession: AG1960
C.Saccessi
                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-55 <KUR>
A;Cross-references: GB:BA000019; PIDN:BAB76304.1; PID:g17133742; GSPDB:GN00179
A;Experimental source: strain PCC 7120
C;Genetics:
                                                                                                                                                                                                                                                                                                                                           Histone HI - sea urchin (Strongylocentrotus intermedius) (fragment)
C;Species: Strongylocentrotus intermedius
C;Species: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 12-Apr-1995
C;Accession: B38839
B;Suzuki, M.; Sugiura, M.; Ebashi, S.
J. Biochem. 108, 347-355, 1990
A;Title: Sea urchin protease specific to the SPKK motif in histone.
A;Reference number: PS0145; MUID:91115778; PMID:2126010
                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 55;
                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.8%; Score 7; DB 2;
100.0%; Pred. No. 15;
100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.8%; Score 7; DB 2
100.0%; Pred. No. 9.4
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Pred. No. 15;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Keywords: chromosomal protein; nucleosome
                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 7; Conservative
                                                                                                               219 STISSSAS 226
                                                                                                                                                                                    STTSSSAS 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A, Molecule type: protein
A, Residues: 1-32 <SUZ>
C, Superfamily: histone H1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      254 SPRRKSS 260
          Best Local Similarity
Matches 8: Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPRRKSS 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          382 ALSQNOS 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 ALSONOS 15
                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: asr4605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AG1960
                                                                                                               à
                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
Firettelin, H.; Saunders, N.J.; Heidelberg, J.; Jeffries, A.C.; Nelson, K.E.; Eisen, J.A. Hickey, E.K.; Haft, D.H.; Salzberg, S.L.; White, O.; Fleischmann, R.D.; Dougherty, B.A.; ri, H.; Qin, H.; Vamathevan, J.; Gill, J.; Scarlato, V.; Masignani, V.; Pizza, M. Science 287, 1809-1815, 2000
A;Authors: Grandi, G.; Sun, L.; Smith, H.O.; Fraser, C.M.; Moxon, E.R.; Rappuoli, R.; Ver A;Title: Complete genome sequence of Neisseria meningitidis serogroup B strain MC58.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A Molecule, type: DNA AREALDAS AREALDAS AREALDAS NID:97226533; PIDN:AAF41669.1; PID:97226534 A:Experimental source: serogroup B, strain MC58
                                                                                                                                                                                                                                                                                                                     hypothetical protein NMB1293 [imported] - Neisseria meningitidis (strain MC58 serogroup
C;bpcies: Neisseria meningitidis
C;bate: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 19-Jan-2001
C;Accession: H81098
ò
Gaps
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C.Superfamily: Neisseria meningitidis hypothetical protein NMA1503
```

```
Job time : 43 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      conserved hypothetical protein PA2713 [imported] - Pseudomonas aeruginosa (strain PAO1) (Species: Pseudomonas aeruginosa (strain PAO1) (Species: Beadomonas aeruginosa (c.) Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000 (S.) ACCESSION: AB3307 R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Bradman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim, J. Lory, S.; Olson, M.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tig4498
melatonin receptor - striped hairy-footed hamster (fragment)
C;Species: Phodopus sungorus (striped hairy-footed hamster)
C;Species: Phodopus sungorus (striped hairy-footed hamster)
C;Species: Phodopus sungorus (striped hairy-footed hamster)
C;Accession: 184498
R;Reppert, S.M.; Weaver, D.R.; Ebisawa, T.
Neuron 13, 1177-1185, 1994
A;Reppert, Cloning and characterization of a mammalian melatonin receptor that mediates re
A;Reference number: 138848; MUID:9503323; PMID:7946354
A;Reference number: I38848; MUID:9503323; PMID:7946354
A;Residues: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-156 cRES,
A;Residues: 1-156 cRES,
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA
A;Residues: PRINA

                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
T16798
hypothetical protein T04A6.1 - Caenorhabditis elegans
hypothetical protein T04A6.1 - Caenorhabditis elegans
c;Species: Caenorhabditis elegans
C;Species: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T16798
A;Description: The sequence of C. elegans cosmid T04A6.
A;Description: The sequence of C. elegans cosmid T04A6.
A;Accession: T16798
A;Accession: T16798
A;Accession: T16798
A;Accession: L11 cvDa.
A;Accession: L11 cvDa.
A;Accession: BMA
A;Residues: 1-11 cvDa.
A;Accession: BMBL:U00042; NID:9470332; PID:9470333; PIDN:AAA50672.1; CESP:T04A6.1
A;Experimental source: strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
0
                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ..
                                                                                      ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
Length 108;
                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:U14110; NID:g602133; PID:g602134
C;Superfamily: vertebrate rhodopsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 1.8%; Score 7; DB 2; Best Local Similarity 100.0%; Pred. No. 40; Matches 7; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2;
    Query Match 1.8%; Score 7; DB 2; Best Local Similarity 100.0%; Pred. No. 28; Matches 7; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 1.8%; Score 7; DB 2
Best Local Similarity 100.0%; Pred. No. 29;
Matches 7; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    314 FAICWAP 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 FAICWAP 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            187 LPVISVA 193
                                                                                                                                                                                      307 LAILLSA 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25 LPVISVA 31
                                                                                                                                                                                                                                                                    7 LAILLSA 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Genetics:
A;Gene: CESP:T04A6.1
A;Introns: 11/3; 82/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                    g
```

```
A; Title: Complete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathog A; Reference number: A82950; MUID:20437337; PMID:10984043
A; Accession: A83307
A; Status: preliminary
A; Ascession: A83307
A; Gross_references: DNA
A; Residues: 1-159 <8TO>
A; Cross_references: GB:AE004699; GB:AE004091; NID:g9948782; PIDN:AAG06101.1; GSPDB:GN001:
A; Experimental source: strain PAO1
C; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; Genetics:
A; G
```

hylobates m hylobates s macaca mula pan troglod papio hamad pongo pygma pygathrix b pygathrix n

Q95nc0 Q95nc5 P79436 P56440 P56441 097881

nomo sapien gorilla gor cercocebus

> P56439 P51681 097883

hylobates

```
DESTROY OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOTAL OF THE TOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND CHARACTERIZATION.
TISSUE=Eosinophil;
MEDLINE=21104636; PubMed=11181941;
MODINE=21104636; PubMed=11181941;
MODINE K.L., Behan J., Laz T.M., West R.E. Jr., Greenfeder S.A., Anthes J.C., Umland S., Man Y., Hipkin R.W., Gonsiorek W., Shin N., Gustafson E.L., Qiao X., Wang S., Hedrick J.A., Greene J., Bayne M., Monsma F.J. Jr.,
"Cloning and characterization of a novel human histamine receptor.",
                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20538417; PubMed=10973974;

MEDLINE=20538417; PubMed=10973974;

Oda T., Morikawa N., Saito Y., Masuho Y., Matsumoto S.-I.;

"Molecular cloning and characterization of novel type of histamine teceptor preferentially expressed in leukocytes.";

J. Biol. Chem. 275:36781-36786 (2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Bone marrow;
PubMed=11179434;
Liu C., Ma X.-J., Jiang X., Wilson S.J., Hofstra C.L., Blevitt J., Pyati J., Li X., Chai W., Carruthers N., Lovenberg T.W.;
Ploning and pharmacological characterization of a fourth histamine
                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIŜSUE-Leukocyte;
MEDLINE-20568725; PubMed-11118334;
Nakamura T., Itadani H., Hidaka Y., Ohta M., Tanaka K.;
"Molecular cloning and characterization of a new human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
Jones P.G., Wu S., Betty M.;
"Cloning of a novel histamine receptor.";
Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 receptor, HH4R."; Biochem. Biophys. Res. Commun. 279:615-620(2000)
                                                                                                                                                                                                                                               390 AA
                                                                                                                                                                                  ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A., AND CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               receptor (H4) expressed in bone marrow ";
Mol. Pharmacol. 59:420-426(2001)
                                                               CKR5 HYLSY
CKR5 MACMU
CKR5 PANTR
                                                                                                                  CKRS_PONPY
CKRS_PYGBI
CKRS_PYGNE
                                         HYLLE
                                                                                                       PAPHA
                                                     CKR5_
                                          CKR5
                                                                                                       CKR5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE=21106320; PubMed=11179436;
 352
352
352
352
352
352
352
                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human)
 HH4R HUMAN
\iota
cavia porce
homo sapien
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bos taurus
homo sapien
bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bos taurus
homo sapien
bos taurus
                                                                          ' Search time 25 Seconds
(without alignments)
814.377 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rattus norv
rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   homo sapien
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cataglyphis
kluyveromyc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            brachydanio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sus scrofa
mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   buchnera ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thermus the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              phaseolus v
phaseolus v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gallus gall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sus scrofa
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cercopithec
cercopithec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        camponotus
                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                1 MSESNSTGILFPAAQVPLAF.......WKILCVTKWPALSQNQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  homod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09jkli
08r416 1
017292 0
017296 0
059863 k
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09qyn8
0924t9
08k458
08r415
08spn1
08nfj6
08spn2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P33946 P
P24390 P
002769 P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9ji35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9czr4
Q8ka18 ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P16608
P32250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P58406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P35334
P58823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q95n03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9tv42
 GenCore version 5.1.6
(c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                               141681 segs, 52070155 residues
                                                                         1, 2004, 10:13:35 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                                              protein search, using sw model
                                                                                                                                                                                                                                                                                                                                    summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HH3R HUMAN
HH3R MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RAT
BOVIN
HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATBO
KLULA
BRARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ML1A PIG
CLF8 MOUSE
RNFG BUCAP
ER21 BOVIN
ER21 HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BOVIN
HUMAN
MOUSE
RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ER21_HUMAN
ML1A_BOVIN
TRPA_THETH
P2Y5_CHICK
PGI1_PHAVU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P2YS_CHICK
PGI1_PHAVU
PGI3_PHAVU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAMAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HUMAN
                                                                                                                                                                          OLIGO
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HH4R HH3R HH3R F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PKR2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PKR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PKR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PKR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PLB K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PKR2
                                                                                                                                                                                                                                                                                                                            Post-processing: Listing first 45
                                                                                                                                                                                                                                                                                         seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                              %
Query
Match Length DB
                                                                                                                          US-10-626-445-8
                                                                                                                                                                                                                                                                                                                                                        SwissProt_42:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               October
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  391
                                                                                                                                  Perfect score:
                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                               ı
                                             OM protein
                                                                                                                                                                                                                                                                                       Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                     Database :
                                                                                                                                                                                                                                    Word size
                                                                                                                                                Sequence:
                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                   Maximum
                                                                     Run on:
                                                                                                                      Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ.
```

PR00237; GPCRRHODOPSN.

PRINTS;

```
absence of agonist).

-i- STBSUE SPECIFICITY: Expressed primarily in the bone marrow and absence of agonist).

-i- TISSUE SPECIFICITY: Expressed primarily in the bone marrow and eosinophils. Shows preferential distribution in cells of momnocytes, mast cells, neutrophils. Also expressed in a wide momocytes, mast cells, neutrophils. Also expressed in a wide momocytes, mast cells, neutrophils. Also expressed in a wide wariety of peripheral tissues, including the heart, kidney, lung, pancreas, skeletal muscle, prostate, small intestine, spleen, fetal liver and lymph node.

-i- INDUCTION: Expression is either up-regulated or down-regulated upon activation of the lymphoid tissues and this regulation may depend on the presence of IL-10 or IL-13.

-i- MISCELLANEOUS: Does not bind diphenhydramine, loratadine, ranitidine, cimetidine and chlorpheniramine. Shows modest affinity ranitidine, cimetidine and chlorpheniramine. Shows modest clorapine, immepip and imetit. The order of inhibitory activity or closenpropit burimmande closapine behaves as impromidine show some agonist, dimaprit, and clobenpropit burimmande shows inverse agonism (enhances CAMP afull agonist. Thioperamide shows inverse agonism (enhances CAMP activatives was Histamine > N-alpha-methylhistamine > R(-)-alpha-methylhistamine > Both N-alpha-methylhistamine > R(-)-alpha-methylhistamine > Both N-alpha-methylhistamine > R(-)-alpha-methylhistamine > R(-)-alpha-met
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ong as its content is in no way noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                           Puhl H.L. III, Ikeda S.R., Aronstam R.S.; signal transduction "cDNA clones of human proteins involved in signal transduction sequenced by the Guthrie cDNA resource center (www.cdna.org)."; submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases. Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases. i. FUNCTION: The H4 subclass of histamine receptors could mediate the histamine signals in peripheral tissues. Displays a significant level of constitutive activity (spontaneous activity in the
                                                                                                                                                                                                                                                                        O'Reilly M.A.; "Identification of a histamine H4 receptor on human eosinophils - Role in eosinophil chemotaxis."; "Inna /oneman Aarabases.
Zhu Y., Michalovich D., Wu H.-L., Tan K.B., Dytko G.M., Mannan I.J., Boyce R., Alston J., Tierney L.A., Li X., Herrity N.C., Vawter L., Sarau H.M., Ames R.S., Davenport C.M., Hieble P., Wilson S., Bergsma D.J., Fitzgerald L.R.; "Cloning, expression, and pharmacological characterization of a novel human histanine receptor."

Mol. Pharmacol. 59:434-441(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                   in eosinophil chemotaxis.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO, GO:0016021, C:integral to membrane, NAS. GO, GO:0004969, F:histamine receptor activity; NAS. InterPro; IPR000276, GPCR_Rhodpsn. InterPro; IPR008102; Histamine_H4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long a modified and this statement is not removed. entities requires a license agreement (See hor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AB044934; BAB13698.1; -.
EMBL; AB045370; BAB20091.1; -.
EMBL; AF307973; AAG32052.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MBL; AF225356; AALULee---.
EMBL; AF325356; CAC83493.1;
EMBL; AJ298292; CAC83493.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF312230; AAK12081.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF329449; AAK43542.1;
EMBL; AF325356; AAL01684.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AY136745; AAN01271
PIR; JC7566; JC7566.
Genew; HGNC:17383; HRH4.
                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                    [8]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               606792;
```

InterPro; IPR008102; His Pfam; PF00001; 7tm_1; 1.

```
FUNCTION: The H3 subclass of histamine receptors could mediate the profession and peripheral nervous system. Signals histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of
                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20218440; PubMed=10757514;
MEDLINE=20218440; PubMed=10757514;
Tardivel-bacombe J., Rouleau A., Heron A., Morisset S., Pillot C.,
Tardivel-bacombe J., Rouleau A., Heron A., Morisset S., Pillot C.,
Tardivel-bacombe J., Rouleau A., Heron A., Morisset S., Pillot C.,
Cochois V., Schwartz J.-C., Arrang J.-M.;
"Clohing and cerebral expression of the guinea pig histamine H3
receptor: evidence for two isoforms.";
NeuroReport 11:755-759 (2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Hystricognathi, Caviidae, Cavia.
                                                                                                                                                                                                                                                                     S-palmitoyl cysteine (Potential).
A -> V (IN REF. 1).
H -> R (IN REF. 1).
Q -> R (IN REF. 1).
                                                                                                                                                                                                                                                        (GLCNAC. . .) (POTENTIAL) (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                         DB 1; Lens
o. 2e-13;
0; Indels
                                                                                                                                                                                                                                                                                                                                                                Length 390;
             PROSITE; PSO0237; G PROTEIN RECEP F1 1; 1.
PROSITE; PSS0262; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                         C986BBAE7FF912C3 CRC64;
                                                                                                         2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                               EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                              EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                         5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
6 (POTENTIAL).
                                                                                                                                                                                                                                  CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SÜBCELLULAR LOCATION: Integral membrane protein. ALTERNATIVE PRODUCTS:
                                                                                                                            3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                        (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Event=Alternative splicing; Named isoforms=2; Name=Long; Synonyms=H3L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORMS LONG AND SHORT)
                                                                                                                                                                                                                                                    BY SIMILARITY.
N-LINKED (GLCNA
N-LINKED (GLCNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Isold=09/1135-1; Sequence=Displayed;
Name=Short; Synonyms=H3S;
Isold=09J135-2; Sequence=VSP_001880;
                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                  EXTRACELLULAR
                                                                           1 (POTENTIAL)
CYTOPLASMIC (
                                                                                                                                                                                                                               7 (POTENTIAL)
                                                                                                     2 (POTENTIAL)
                                                                                                                                                     4 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                  Pred. No.
                                                                                                                                                                                                                                                                                                                                                                       Score 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                     93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                      93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                        100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last seq
15-MAR-2004 (Rel. 43, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cavia porcellus (Guinea pig).
                                                                                                                                                                                                                                                                                                                                              44495 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                                                                                                                                                       5.4%;
                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                      119
40
40
52
73
73
87
108
1152
1172
1193
304
325
                                                                                                                                                                                                                                 362
390
                                                         Lipoprotein; Palmitate
                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
nes 21; Conserv
                                                                                                                                                                                                                                                                                                                                                  390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HH3R CAVPO (09JI36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                        CONFLICT
                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                    TRANSMEM
                                                                                                                                     PRANSMEM
                                                                                                                                                          FRANSMEM
                                                                                                                                                                                   TRANSMEM
                                                                                                                                                                                                            RANSMEM
                                                                                                                                                                                                                                   FRANSMEM
                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                             CONFLICT
                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HH3R_CAVPO
                                                                                                                        DOMAIN
                                                                                                                                                DOMAIN
                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HRH3.
                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
```

ö

H3

```
'Cloning and functional expression of the human histamine
                                                                                                                                                                                                                            TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rogers
 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the SWIBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
TISSUE SPECIFICITY: Expressed widely and abundantly throughout the brain. Highly expressed in discrete neuronal populations such as pyramidal cells in cerebral cortex or cerebellar Purkinje cells. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                N-LINKED (GLCNAC. .) (POTENTIAL). Missing (in isoform Short). /FIId=VSP_001880.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9Y5N1; Q9GZX2; Q9H4K8;
28-FEB-2003 (Rel. 41, Created)
15-PEB-2003 (Rel. 41, Last sequence update)
15-PAR-2004 (Rel. 43, Last annotation update)
Histamine H3 receptor (HH3R) (G protein-coupled receptor 97)
HRH3 OR GPCR97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lovenberg T.W., Roland B.L., Wilson S.J., Jiang X., Pyati J.
Huvar A., Jackson M.R., Erlander M.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2.8%; Score 11; DB 1; Length 445; 100.0%; Pred. No. 0.0042; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                       PROSITE; PS0023'; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                      TId=VSP 001880.
BAE206A3887189A0 CRC64;
                                                                                                                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                          EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                             CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   445 AA
                                                                                                                                                                                                                                                                                                                        POTENTIAL.
                                                                                                                                                                                                                                                                                 POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL
                                                                                                                                                                                                                                                                                                                                              POTENTIAL
                                                                                                                               EMBL, AF267537; AAF78947.1; -... RMBL, AF267538; AAF78950.1; -... Interpro; IPR000276; GPCR Rhodpsn. Interpro; IPR003980; H3_receptor. Pfam, PF00001; 7tm 1, 1... PRINTS; PR00237; GPCRRHODOPSN. PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Thalamus;
MEDLINE=99278519; PubMed=10347254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                 445 AA; 48734 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 100.
ses 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SS LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LNLAISDFLVG 85
                                                                                                                                                                                                                                                           61
92
110
92
1130
1157
1197
1197
1197
111
111
305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
                                                                                                                                                                                                                                        Alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                               360
381
399
420
20
11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HH3R HUMAN
                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                  DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               75
                                                                                                                                                                                                                                                            FRANSMEM
                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                     FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                             VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                       DOMAIN
 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
```

```
Mediciar S. P., Matthews. 1. Follows: J. Burton J., Gilbert J.G.R., And Deloukas P., Matthews. H.H., Shurst J. Burbage A.K., Bagguley C.L., and Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., and Sailey O.P., Bird C.P., Blacks S.E., Bridgeman A.M., Berwen A.J., Beastely O.P., Bird C.P., Blacks S.E., Bridgeman A.M., Brown A.J., Rade, D., Burtill W.D., Butler A.P., Carder C., Carter N.P., Clee C.M., Cleng S., Cobley V.E., Collor R.E., Cornor R.E., Corby N.R., Colson A., Coville G.J., Deadman R., Dhami P.D., Dunn M., Blington A.G., Frankland J.A., Fraser A., French L., Garner P., Staffinam D. V., Griffiths C., Griffiths M.D., Gwilliam R., Hall R.E., Hanten R.R., Huut S.E., Jeksech K., Johnson C.M., Johnson D., Ray M.P., Kimberley A.M., King A., Kinghts A., Laird G.K., Lavlor S., Lehvaeslaiho M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D., Amarsh V.L., Marth S.L., McConnachte L.J., McCanson T., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay K., McLay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: The His subclass of histamine receptors could mediate the histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of agonist). Agonist stimulation of isoform 3 niether modified adenylate cyclase activity nor induced intracellular calcium mobilization.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Coge F., Guenin S.-P., Audinot V., Renouard-Try A., Beauverger P., Macia C., Ouvry C., Nagel N., Rique H., Boutin J.A., Galizzi J.-P.; "Genomic organization and characterization of splice variants of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence and comparative analysis of human chromosome 20.";
                                                                                                                                       SEQUENCE FROM N.A. (ISOFORM 2), AND CHARACTERIZATION.
MEDLINE=20568725; PubMed=11118334;
Nakamura T., Itadani H., Hidaka Y., Ohta M., Tanaka K.;
"Molecular cloning and characterization of a new human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT SHY-DRAGER SYNDROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=11953383; PubMed=11956964; Wiedemann P., Boenisch H., Oerters F., Bruess M.; "Structure of the human histamine H3 receptor gene (HRH3) and identification of naturally occurring variations."; [5] Neural Transm. 109:443-453(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORM 3).
Ullmer C., Zirwes E., Lubbert H.;
"Cloning and functional expression of the human histamine H3S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SUBCELLULAR LOCATION: Integral membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORMS 1; 3; 4; 5; 6 AND 7).
                                                                                                                                                                                                                                                                                                                                                                                receptor, HH4R.";
Biochem. Biophys. Res. Commun. 279:615-620(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Thalamus;
MEDLINE=21181559; PubMed=11284713;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORM 1).
MEDLINE=21638749; PubMed=11780052;
receptor.";
Mol. Pharmacol. 55:1101-1107(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human histamine H3 receptor."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem. J. 355:279-288(2001)
```

```
EMBL; AR140538) AAD38151.1;

EMBL; AR140538) AAD38151.1;

EMBL; AR190000; BAB20090.1;

EMBL; AR190000; BAB210030.1;

EMBL; AL296652; CAC30434.1;

EMBL; AL296652; CAC30434.1;

EMBL; AL29652; CAC30434.1;

EMBL; AL29653;

EMBL; AL26363; CAC30414.1;

EMBL; AL26363; CAC30414.1;

EMBL; AL26363; CAC30414.1;

EMBL; AL26363; CAC30401.1;

EMBL; AL26363; CAC30401.1;

EMBL; AL20683; C.integral to plasma membrane; TAS.

GO; GO:0001486; E:histeanne receptor activity; TAS.

GO; GO:0001486; E:histeanne receptor activity; TAS.

GO; GO:0001269; E:histeannitter secretion; TAS.

EG; GO:0001269; E:histeannitter secretion; TAS.

EMBL; PRO0236; EMPL; EMPL;

EMBL; PRO0237; GECRHODOPSN.

EMBL; PRO0237; GECRENENSEEP F11; 1.

EMBL; PROSTE; PRO0237; GECRENENSEEP F11; 1.

EMBL; PROSTE; PRO0237; GECRENENSEEP F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F12; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F13; 1.

EMBL; PROSTE; PRO0237; GEORGEN EMBLED F13; 1.

EMBL; PRODES F140149; F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, F1401414, 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@18b-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                        -1- TISSUE SPECIFICITY: Expressed predominantly in the CNS, with the greatest expression in the thalamus and caudate nucleus. The various isoforms are mainly coexpressed in bath, but their relative expression level varies in a region-specific manner. Isoforms 3 and 7 are highly expressed in the thalamus, caudate nucleus and cerebellum while isoforms 5 and 6 show a poor expression. Isoforms 5 and 6 show a high expression in the amygdala, substantia nigra, cerebral cortex and hypothalamus. Isoform 7 is not found in hypothalamus or substantian nigra.

-!- DISEASE: Defects in HRH3 are a cause of Shy-brager syndrome (MIN:146500]. This syndrome is characterized by orthostatic hypotension, bladder and bowel incontinence, anhidrosis, iris atrophy, amyotrophy, ataxia, rigidity and tremor.

-!- MISCELLANEOUS: Does not bind to cimetidine and tripolidine. Shows modest affinity for thioperamide, imetit, N-alpha-methylhistamine and R(-)-alpha-methylhistamine. Isoform 4 is unable to bind to iodoproxyfan while isoforms 1 and 3 bind it with high affinity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CYTOPLASMIC (POTENTIAL).
Event=Alternative splicing; Named isoforms=7; Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                     IsoId=Q9Y5N1-6; Sequence=VSP_001883;
                                                                                                                                                                                                                                                                                                                                                                                                                         lsoId=Q9Y5N1-7; Sequence=VSP_001884;
                                                                                                                                                                Name=3; Synonyms=H3S;
IsoId=09Y5N1-3; Sequence=VSP_001885;
                                                                                                                                                                                                                                                        IsoId=Q9Y5N1-4; Sequence=VSP_001881;
                                                                                                                                                                                                                                                                                Name=5;
IsoId=09Y5NI-5; Sequence=VSP_001882;
                                                                                                                                           IsoId=Q9Y5N1-2; Sequence=VSP_001886;
                                                                                    IsoId=Q9Y5N1-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
```

CYTOPLASMIC (POTENTIAL).

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the ENBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Coge F., Rique H., Levacher B., Leopold O., Guenin S.-P., Boutin J.A.,
Galizzi J.-P.;
                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBL_TaxID=10090;
                                                                                           POLY-GLY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
Missing (in isoform 4).
FTId-VSP_001881.
                                                                                                                                                             Missing (in isoform 7).

FITGHOSP 010884.

Missing (in isoform 3).

FTIGHOSP 001885.

K -> KRWKKTCL (in isoform 2).

FTIGHOSP 001886.

A -> V (IN SHY-DRAGER SYNDROME).

FTIGHOSP 01235.
                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                          2.8%; Score 11; DB 1; Length 445; 100.0%; Pred. No. 0.0042;
                                                                                                                                                                                                                                                                                             0; Indels
            EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                    EXTRACELLULAR (POTENTIAL)
                                                                                                                           (in isoform 5).
                              CYTOPLASMIC (POTENTIAL).
                                                                                                                                      /Itshing
/FTId=VSP 00186z.
Missing (In isoform 6).
                                                                  CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                               28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                                                                             0; Mismatches
                                        POTENTIAL.
                                                                                                                                    Missing
                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                         48671 MW;
                                                                                                                                                                                                                                                                                             11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                STANDARD;
                                                                                                                                                                                                                                                                                                                55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                            74 LNLAISDFLVG 84
                                                                                                                                                                                                                             280
   315
                                                                                                                                                                                         353
                                                                                                                                                                                                                                                                                                                                                                                                                                               musculus (Mouse)
                                                                                                                                                                                                                                                19
445 AA;
                                                                                                                                                                                                                                                                                   Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                            280
   1178
1178
1197
218
3360
3381
20
20
2250
2250
2250
2250
2250
                                                                                                                                                                                                            445
                                                                                                                                   197
                                                                                                                                                     227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=CD-1;
                                                                                                                                                                                                                                                                                                                                                                               HH3R MOUSE
P58406;
TRANSMEM
DOMAIN
TRANSMEM
                                                                                             DOMAIN
CARBOHYD
VARSPLIC
                             DOMAIN
                                                DOMAIN
                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                   VARSPLIC
                                                                                                                                                     VARSPLIC
                                                                                                                                                                      VARSPLIC
                                                                                                                                                                                         VARSPLIC
                                                                                                                                                                                                           VARSPLIC
                                                                                                                                                                                                                                               CONFLICT
                                                                                                                                                                                                                             VARIANT
                                                                   DOMAIN
                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                       HH3R_MOUSE
                                                                                                                                                                                                                                                                                             Matches
   ð
```

ô

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Morisset S., Rouleau A., Ligneau X., Gbahou F., Tardivel-Lacombe J., Stark H., Schunack W., Ganellin C.R., Schwartz J.-C., Arrang J.-M.; "High constitutive activity of native H3 receptors regulates histamine
                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
NCBI_TaxID=10116,
                                                                                                                                                                                                                                             POLY-ALA.
N-LINKED (GLCNAC. . .) (POTENTIAL)
BBD406E29E1F3C5F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=2030707; Pubmed=10869375; Lovenberg T.W., Pyati J., Chang H., Wilson S.J., Erlander M.G.; "Cloning of rat histamine H3 receptor reveals distinct species pharmacological profiles."; J. Pharmacol. Exp. Ther. 293:771-778(2000).
                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                Score 11; DB 1; Length 445;
Pred. No. 0.0042;
0; Mismatches 0; Indels
                                     InterPro; irrocol, 7mm,; 1.

PRINTS; PRO001; 7mm,; 1.

PRINTS; PRO1471; HISTANINEHSR.

PROSITE; PS02023; G_PROTEIN_RECEP_F1_1; 1.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.

G-protein coupled receptor; Transmembrane; Glycoprotein.

39

EXTRACELULAR (POTENTIAL).
                                                                                                                                          EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                               EXTRACELLULAR (POTENTIAL)
                                                                                                                        CYTOPLASMIC (POTENTIAL).
                                                                                                                                                            CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORMS 1; 2; 3 AND 4).
Itadani H., Takimura T., Nakamura T., Ohta M.;
"Cloning of a novel G protein-coupled receptor.";
                                                                                                                                                                                                                                                                                                                                                                              HINR RAT STANDARD; PRT; 445 AA. Q9QYN8; Q9QYN7; Q9QYN9; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 10-OCT-2003 (Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                         100.0%; Pred. No. 0.00
ive 0; Mismatches
                                                                                                                                                                     POTENTIAL
                                                                                                                                                                                                         POTENTIAL
                                                                                                                                                                                       POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
                           InterPro; IPR00376; GPCR Rhodpsn.
InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21016732; PubMed=11130725;
         EMBL; AY044153; AAK72406.1; -.
MGD; MGI:2139279; Hrh3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORM 1).
TISSUE=Hypothalamus;
                                                                                                                                                                                                                                                             48541 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                            Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                                                                 2.8%;
                                                                                                                                                                                                                                                                                                 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 408:860-864(2000).
                                                                                                                                                                                                                                                                                                                  55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                74 INLAISDFLVG 84
                                                                                                                                                                                                                                                             445 AA;
                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Striatum;
                                                                                                                                                         DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                PRANSMEM
                                                                                                                                                TRANSMEM
                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                               Query Match
                                                                                                                     DOMAIN
                                                                                                                                       DOMAIN
                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                LT S
ð
```

```
This SMISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                               receptor.",
Mol. Pharmacol. 55:1101-1107(1999).
-!- FUNCTION: The H3 subclass of histamine receptors could mediate the histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE SPECIFICITY: Expressed abundantly in brain, most notably throughout the thalamus, the ventromedial hypothalamus and the caudate nucleus. Isoform 1 is largely predominant in all tissues. This proxyfan acts as a potent neutral antagonist while this proxyfan and FUB465 act as potent inverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                    MEDLINE=99278519; PubMed=10347254;
Lovenberg T.W., Roland B.L., Wilson S.J., Jiang X., Pyati J., Huvar A., Jackson M.R., Erlander M.G.;
"Cloning and functional expression of the human histamine H3
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00277, G PROTEIN RECEP F1 1, 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2, 1.
G-protein coupled receptor; Transmembrane; Glycoprotein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=Q9QYN8-4; Sequence=VSP_001888, VSP_001889;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                        SÜBCELLULAR LOCATION: Integral membrane protein.
ALTERNATIVE PRODUCTS:
Event-Alternative splicing; Named isoforms=4;
Comment-Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IsoId=09QYN8-2; Sequence=VSP_001887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=3;
IsoId=Q9QYN8-3; Sequence=VSP_001888;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isold=Q9QYN8-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AY009370; AAK020691; EMBL; AB015646; BAA89765.1; EMBL; AB015646; BAA89765.1; EMBL; AB015646; BAA89767.1; EMBL; AB015646; BAA89768.1; InterPro; IPR000276; GPCR_Rhodpsn.lnterPro; IPR03980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF237919; AAF82086.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PEAM; PF00001; 7tm 1; 1
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEHSR.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Synonyms=H3L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=2; Synonyms=H3S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
70
91
108
1129
1156
1177
1196
2217
359
380
445
23
                                               TISSUE SPECIFICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alternative splicing
                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
```

EXTRACELLULAR (POTENTIAL)

ó

```
DOMAIN
DISULFID
                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                           TRANSMEM
                                       TRANSMEM
                                                                               FRANSMEM
                                                               DOMAIN
                                                                                                       DOMAIN
                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PKR2_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RAPARA RA
                                                                                                                                                                                                                                                                                                                                                                                    ò
                        FT
FT
FT
FT
FT
FT
SO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                   VQPHGSLEQCWK -> CVERLGKLEASLILPIWMFSGRWRR
RKHVCELDVPMMFNQERQNCRGARGWIGRCGLPRPPPSVLQ
LPAEPRQLILPAPPFGLGRWPCPACFVCTIRIWGWVVMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. Katsumoto M., Matsumoto S., Saito T., Kambhara M., Takasaki J., Matsushime H., Furuichi K.; Obishi T., Soga T., Matsushime H., Furuichi K.; Obishi T., Soga T., Matsushime H., Furuichi K.; Characterization of the cloned rat and porcine cysteinyl leukotriene
                                                                                   Eukaryota; Métazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        receptors.";
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Receptor for cysteinyl leukotrienes. The response is mediated via a G-protein that activates a phosphatidylinositol-calcium second messenger system (By similarity).
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
(in isoform 2).
(potential).
(in 180form 2).
(in 180form 2).
                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
4 (POTENTIAL).
                                                                                                                                                                                                                                                                                                              Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL, AB052661, BAB60816.1; -.
InterPro; IPR004071, Cysleuk_receptor.
InterPro; IPR004071, Cysleuk_receptor.
InterPro; IPR004071, Cysleuk_receptor.
PÉAM, PR00401, 7tm_1; 1.
PRINTS, PR01531, CYSLTRECPTR.
PRINTS, PR01537, GYSLTRENDODEN.
PROSITE; PR00527, G-PROTEIN_RECEP_FI_1; FALSE_NEG.
PROSITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROSITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROSITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROSITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROFITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROFITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROFITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROFITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROFITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
PROFITE; PS50262; G-PROTEIN_RECEP_FI_2, 1.
                                                                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                            (in isoform 4).
/FTId=VSP_001889.
63DFEFCZ1758FESB_CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-FB-2003 (Rel. 41, Created)
28-FB-2003 (Rel. 41, Last sequence update)
28-FB-2003 (Rel. 41, Last annotation update)
Cysteinyl leukotriene receptor 2 (CystrR2) (RSBPT32).
CYSTRR2 OR CYSLT2.
                                                                                                                                                                                                                                                                                                     2.8%; Sco.,
100.0%; Pred. No. v...
0; Mismatches
                                                                           FTIG=VSP
                                                                                                                                                                                                                                                                        445 AA; 48588 MW;
                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Marches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                    55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                       74 LNLAISDFLVG 84
                                                                                                                                               445
                                       11305
                                                                                                     321
                                                                                                       274
                                                                                                                                                 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RANSMEM
                                         CARBOHYD
VARSPLIC
                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                         VARSPLIC
                                                                                                                                                   VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                              PT
FT
FT
FT
FT
FT
SQ
```

```
RY SEQUENCE FROM N.A.

RAP SEQUENCE FROM N.A.

RX OKAZAKI Y. TISSUE=Medulla oblongata, Pituitary, and Thymus; RX MEDIINE=22354683; PubMed=12466851; RA OKAZAKI Y., FURUNO M., Kasukawa T., Adachi J., Bono H., Kondo S., RA OKAZAKI Y., Puruno M., Kasukawa T., Adachi J., Bono H., Kiyosawa H., RA Sichimi R., Hill D.P., Bult C., Hume D.A., Quackenbush J., Carinol I.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W., RA Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J., RA Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J., RA Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J., RA Baldarelli R., Firston I.A., Pletcher C.F., Forriest R., Frazer K.S., RA Balda B., Dragani T.A., Pletcher C.F., Forriest R., Frazer K.S., RA Balda B., Lockson I.J., Jarvis B.D., RA Garimmond S., Gustinoich S., Hirokawa N., Jackson I.J., Jarvis B.D., RA Kanaj H., Kawasawa Y., Kedzierski R.M., King B.L., RA Konagaya A., Kurchinoni L., McKenzie L., Miki H., RA Maglott D.R., Maltais L., Marchinoni L., McKenzie L., Miki H., RA Maglott D.R., Maltais L., Marchinoni L., McKenzie L., Miki H., RA Sandellin A., Schneider C., Semple C.A., Setou M., Shimada K., Ra Sandellin A., Schneider C., Semple C.A., Setou M., Shimada K., Ra Wan Z., Zavolan M., Zhu Y., Zinmer R., Yang I., Yang I., Yang I., Yang I., Yang I., Yang I., Yang I., Yang I., Kanai L., Wallening L.G., Wynshawa T., Konno H., Nakamura M., Sakatume N., Sato K., Rhiraki T., Waki K., Kawai D., Aizawa K., Arakawa T., Fukuda S., RA Hara A., Hashizume W., Imotani K., Ishii Y., Itoh M., Kagawa I., RA Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=22022134; PubMed=12024206; Mchang M.C., Belluzzi J., Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J., Weaver D.R., Leslie F.M., Zhou Q.-Y., Proximaticin 2 transmits the behavioural circadian rhythm of the suprachiasmatic nucleus.", Nature 417:405-410(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08K458; 080XQ0; 08BIR4;
10-0CT-2003 (Rel. 42, Created)
10-0CT-2003 (Rel. 42, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
Prokineticin receptor 2 (PK-R2) (G protein-coupled receptor 73-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                          BY SIMILARITY.

H. LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                       Length 309;
                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                     6) N-LINKED (GLCNAC. . .) (PC
35507 MW; A122AC8177879D56 CRC64;
                                                                     6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
7 (POTENTIAL).
                  S (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                       (POTENTIAL) .
                                                                                                                                                                                                                                                                                                                                                                                       DB 1;
                                                                                                                                                                                                                                                                                                                                                                       2.3%; Scor.
100.0%; Pred. No. v.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381 AA
                                                                                                                                                                             CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 10v..
Sest Sy Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
187
208
229
2250
2271
2392
171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62 LNLAISDFL 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     55 LNLAISDFL 63
                                                                                                                                                                                                                                                                                                           167
309 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPR73L1 OR PKR2
                                                                                                                                                                                                                                                                               166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PKR2 MOUSE
```

```
STRAIN=CS7BL/6; TISSUE=Brain;

X MEDLINE=22388257; PubMed=12477932;

A Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

A Altschul S.F., Zeeberg B. Buctow K.H., Schaefer C.F., Bhath N.K.,

A Altschul S.F., Jorden H., Moore T., Max S.I., Wang J., Hsieh F.,

A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

BA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Brapleron M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J. Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Broak S.A., McEwan P.J., McKernan K.J., Marlak J.B., Mullahy S.J.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Pilalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,

RA Paley J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,

RA Schnertion and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/amnounce/or send an email to license@isb-sib.ch).
                                   Birney E., Hayashizaki Y., Maraka Birney E.S., Kogers J., Manayasis of the mouse transcriptome based on functional annotation of Nature 420:563-573 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and mouse CDNA sequences.",
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
-!- FUNCTION: Receptor for prokineticin 2. Exclusively coupled to the G(q) subclass of heteromeric G proteins. Activation leads to mobilization of calcium, stimulation of phosphoinositide turnover and activation of p44/p42 mitogen-activated protein kinase (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleus, lateral globus pallidus and amygdala. Highest expression seen in paraventricular thalamic nuclei and is also extensively expressed in the suprachiaematic nucleus.
SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBSCELLULAR LOCATION: Integral membrane protein.
TISSUE SPECIFICITY: Expressed in several regions of the brain, including paraventricular hypothalamic nucleus, dorsal medial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothalamic nucleus, paratenial thalamic nuclei, paracentral thalamic nucleus, lateral habenular nucleus, lateral septal
   fasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0237; GFCRHODODSN.
PROSITE; PS00237; GFORDEIN RECEP F1 1; 1.
PROSITE; PS50262; G_PROTEIN RECEP_F1 2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein.
DOMAIN 1 51 EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
2 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
4 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72
86
107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               133
154
168
189
                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
REPRESENTED TO THE PROPERTY OF A SECOND COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR COLOR CO
```

```
;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                  10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Prokineticin receptor 2 (PK-R2) (G protein-coupled receptor 73-like 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=2205031; PubMed=12054613; MEDLINE=2205031; PubMed=12054613; Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M., Abe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S., Inatomi N., Ohtaki T., Onda H., Fujino M., Isolation and identification of EdvBGF/prokineticins as cognate ligands for two orphan G-protein-coupled receptors."; Biochem. Biophys. Res. Commun. 293:396-402(2002).

I. FUNCTION: Receptor for prokineticin 2. Exclusively coupled to the G(q) subclass of heteromeric G proteins. Activation leads to mobilization of calcium, stimulation of phosphoinositide turnover and activation of p44/p42 mitogen-activated protein kinase (By
                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cerebellum, testis and ovary.
                                                      b (FOCENTIAL).

T (POTENTIAL).

CYTOPASMIC (POTENTIAL).

CYTOPASMIC (POTENTIAL).

N-LINKED (GLCNAC. ) (POTENTIAL).

N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             similarity).
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- TISSUE SPECIFICITY: Abundantly expressed in the CNS and reproductive organs with the highest levels in the cerebrum,
                                                                                                                                                                                                                                                 .
0
                                                                                                                                               44 S->P (IN REF. 3).
375 V->L (IN REF. 2; BAC26971).
43375 MW, 1981FD101324166D CRC64;
                                                                                                                                                                                                               DB 1; Length 381;
                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL, AY089975; AAM11891.1; ALT INIT.
InterPro; IPR000276; GPCR Rhodpsn.
PRAM; PR000237; GPCRRHODOPSN.
PROSITE; PS00237; GPCRRHODOPSN.
PROSITE; PS00237; GPCRHODOPSN.
PROSITE; PS00262; GPROTEIN RECEP_F1_2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein.
      EXTRACELLULAR (POTENTIAL)
                                   (POTENTIAL)
                                                                                                                                                                                                       / Match 2.3%; Score 9; DB 1
Local Similarity 100.0%; Pred. No. 0.4
nes 9; Conservative 0; Mismatches
                                                                                                                                      BY SIMILARITY
                    (POTENTIAL)
                                                 (POTENTIAL)
                                CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               (G protein-coupled receptor ISE). GPR73L1 OR PKR2.
                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat).
    220
241
270
2291
2310
331
381
7
7
244
205
                                                                                                                                                                                                                                                                   56 NLAISDFLV 64
                                                                                                                                                                                                                                                                                                  66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=Sprague-Dawley;
                                                                                                                                                                             381 AA;
                                                                                                                                                                                                                                                                                      91 NLAISDFLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
 190
221
242
271
292
311
                                                                                                                  24
125
244
                                                                                                                                                                                                                                                                                                                                                    PKR2 RAT
ID PKR2 RAT
AC Q8R415;
DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
                                                          DOMAIN
TRANSMEM
                                                                                                      CARBOHYD
                                                                                                                                 DISULFID
                                                                                                                                                                                                          Query Match
                                                                                                                  CARBOHYD
                                                                                                                                               CONFLICT
                                                                                                                                                                CONFLICT
                                                                                                                                                                             SEQUENCE
                                                                                     DOMAIN
                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                           RESULT
 ð
                                                                                                                                                                                                                                                                                               임
```

```
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=2050031; PubMed=12054613; MacDLINE=2050031; PubMed=12054613; Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M., Abe M., Fukusumi S., Matanabe T., Shintani Y., Yamada T., Hinuma S., Inatomi N., Ohtaki T., Onda H., Fujino M.;
Inatomi N., Ohtaki T., Onda H., Fujino M.;
Isolation and identification of Ed-VEGFProkineticins as cognate ligands for two orphan G-protein-coupled receptors.";
Biochem. Biophys. Res. Commun. 293:396-402(2002).

-: FROTION: Receptor for prokineticin 2. Exclusively coupled to the G(q) subclass of heteromeric G proteins. Activation leads to mobilization of calcium, stimulation of phosphoinositide turnover and activation of p44/p42 mitogen-activated protein kinase (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-0CT-2003 (Rel. 42, Created)
10-0CT-2003 (Rel. 42, Last sequence update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation update)
110-0CT-2003 (Rel. 42, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: Integral membrane protein. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                              N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                    Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                EXTRACELLULAR (POTENTIAL).
5 (POTENTIAL).
                                                                                                                                                                                                          6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                    477C501099535B93 CRC64;
                                                                     2 (POTENTIAL) .
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                   TRACLALLAN (POTENTIAL).
         EXTRACELLULAR (POTENTIAL)
                                                                                      TRACELLIA. (POTENTIAL).
                                           (POTENTIAL) .
                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                          DB 1; 1
5. 0.41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           384 AA
                                                                                                                                                                                                                                                                                                                                                                            2.3%; Score 9; DB 1
100.0%; Pred. No. 0.4
tive 0; Mismatches
                                                                                                                                       (POTENTIAL)
                                                                                                                                                                                                                                                                                                                       BY SIMILARITY
                                                                                                                                                                                                                                                                   CYTOPLASMIC
                                                                                                                        CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL, AY089973; AAM11889.1; -.
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7tm_1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
                                                                                                                                                                                                                                                                                                                                            43603 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NLAISDFLV 102
                                                                   110
136
1157
1170
1191
222
243
272
272
293
312
333
                                                                                                                                                                                                                                                                                                                                                                                                                                                     56 NLAISDFLV 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                              383 AA;
                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity
                    1
55
76
90
1111
1137
158
171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PKR2 BOVIN
ID PKR2 BOVIN
                                                                                                                                                                                                                                                                                                            CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local &
                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                      DOMAIN
TRANSMEM
                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                  TRANSMEM
                                                                                                                                                                                                                                                       TRANSMEM
                                                                                                           TRANSMEM
                                                                                                                                            TRANSMEM
                                     FRANSMEM
                                                                                                                           DOMAIN
                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                        DOMAIN
                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PT
FT
PT
FT
FT
FT
FT
FT
FT
FT
FT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
```

```
"Identification and molecular characterization of two closely related G protein-coupled receptors activated by prokineticins/endocrine gland vascular endothelial growth factor."; J. Biol. Chem. 277:19276-19280(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Prokineticin receptor 2 (PK-R2) (G protein-coupled receptor 73-like 1)
(GPR92) (GPR92).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=2163749; bubMed=11780052; Murton J., Gilbert J.G.R., Deloukas P., Matthews L.H., Ashurst J., Bubbage A.K., Bagguley C.L., Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L., Bailey J., Barlow K.F., Bates K.N., Beard L.M., Beard D.M., Brown A.J., Beasley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J., Backley D., Bird C.P., Bluck A.P., Carder C., Carter N.P., Chapman J.C., Clamp M., Clark G., Clark L.M., Clark S.Y., Clee C.M., Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22314729; PubMed=12427552; MEDLINE=22314729; PubMed=12427552; MEDLINE=22314729; PubMed=12427552; MEDLINE=22314729; PubMed=12427552; Medline M., Altermothara M., Ohishi, T., Matsushime H., Furuichi K.; Kamohara M., Ohishi, T., Matsushime H., Furuichi K.; Biochim and characterization of prokineticin receptors."; Biochim. Biophys. Acta 1579:173-179(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL)

N-LINKED (GLCNAC. .) (POTENTIAL)

N-LINKED (GLCNAC. .) (POTENTIAL)

N-LINKED (GLCNAC. .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIINE=22028034; PubMed=11886876;
Lin D.C.-H., Bullock C.M., Ehlert F.J., Chen J.-L., Tian H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 384;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
G_PROTEIN_RECEP_F1_1; 1.
G_PROTEIN_RECEP_F1_2; 1.
receptor; Transmembrane; Glycoprotein.
ECEPTOR: EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                  6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        997895960EEB2DD4 CRC64;
                                                                                                                      2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                             4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                     3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                       1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                        5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
5. 0.41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           384 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Pred. No. 0.4 iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                 7 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.3%; Score 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              44138 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94 NLAISDFLV 102
                                                                     53
89
1110
1137
1158
1171
1222
224
2243
2244
3344
3344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56 NLAISDFLV 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
    PROSITE; PS00237; G
PROSITE; PS50262; G
G-protein coupled r
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PKR2 HUMAN
QBNFJ6; Q9NTTO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GPR73L1 OR PKR2
                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                    DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                    DOMAIN
                                                                                                                                                            DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PKR2 HUMAN
```

o;

Matches

```
RA Coulson A., Coville G.J., Deadman R., Dhami P.D., Dunn M.,
RA Grafina D.V., Griffiths C., Griffiths M.N.D., Gwilliam R., Hall R.E.,
RA Harmond S., Harley J.L., Heath P.D., Ho S., Holden J.L., Howden P.J.,
RA Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson C.M., Johnson D.,
RA Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor B.J.,
RA Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McWurray A.A.,
RA Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,
RA Millimore B.J.C.T., Prathalingam S.R., Plumb R.W., Ramsay H.,
RA Rice C.M., Ross M.T., Scott C.E., Sehra H.K., Shownkeen R., Sins S.,
RA Swann R.M., Sycamore N. Taylor R., Thomas D.W., Thorpe A.,
RA Tracey A., Tromans A.C., Vaudin M., Wall M., Walliams L., Williams S.A.,
RA Whilthead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,
RA Wilming L., Wray P.W., Hubbard T., Durbin R.M., Bentley D.R., Beck S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "The DNA sequence and comparative analysis of human chromosome 20.";
```

SIMILARITY: Belongs to family 1 of G-protein coupled receptors. CAUTION: Ref.3 sequence differs from that shown due to erroneous gene model prediction.

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its was by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).

```
7 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MIM, 601123, ..., for the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2D5BFA3655347B5E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
2 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL, AF506288, AAM48128.1; -.
EMBL, AB084081; BAC24022.1; -.
EMBL, AL121755; CAB89854.1; ALT_SEQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43995 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HGNC:15836; GPR73L1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             384 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1111
137
158
172
193
224
224
274
295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
```

DB 1; Length 384;

Score 9; D Pred. No.

2.3%; S 100.0%;

Best Local Similarity

Query Match

```
ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SMISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                               MEDLINE=22050031; PubMed=12054613;
Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M., Abada Y., Takatsu Y., Terao Y., Sumano S., Ishibashi Y., Suenaga M., Inbe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S., Instoni N., Ohtaki T., Onda H., Polyino M., Isolation and identification of EG-VEGF/prokineticins as cognate ligands for two orphan G-protein-coupled receptors.";

Blochem. Blochys. Res. Commun. 293:396-402(2002).

FUNCTION: Receptor for prokineticin 1. Exclusively coupled to the G(q) subclass of heteromeric G proteins. Activation leads to mobilization of calcium, stimulation of phosphoinositide turnover
         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         similarity).
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovinae; Bos. MCHI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and activation of p44/p42 mitogen-activated protein kinase (By
       ..
                                                                                                                                                               10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Prokincticin receptor 1 (PK-R1) (G protein-coupled receptor 73)
GPR73 OR PKR1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; 1rac.

Pfam; PF00001; 7tm 1; 1.

PRINTS; PR00237; GPCRHODOPSN.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.

EXTRACELIULAR (POTENTIAL).

EXTRACELIULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EXTRACELLUIAR (POTENTIAL).

3 (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

4 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
2 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL).
      ..
0
   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AY089972; AAM11888.1; -
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7tm_1; 1.
   0;
9; Conservative
                                                                                                                                      STANDARD;
                                                       94 NLAISDFLY 102
                           56 NLAISDFLV 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              232
253
228
322
332
343
393
11
14
36
                                                                                                                                                                                                                                                           Bos taurus (Bovine).
                                                                                                                   PKR1 BOVIN
ID PKR1 BOVIN
                                                                                                                                               QBSPNZ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                      RESULT 11
                                                                                                                                                 à
                                                       셤
```

```
MIM; 607122; -.
Interpro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7tm_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GPR73 OR PKR1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PKR1 MOUSE
                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                      RANSMEM
                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                         FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9JKL1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Identification and molecular characterization of two closely related indentification and molecular characterization of two closely related by protein-coupled receptors activated by prokineticins/endocrine gland vascular endothelial growth factor.";

J. Biol. Chem. 277:19276-19280(2002)

Growth Receptor for prokineticin 1. Exclusively coupled to the cip subclass of heteromeric G proteins. Activation leads to mobilization of calcium, stimulation of phosphoinositide turnover and activation of p44/p42 mitogen-activated protein kinase.

FISSUE SPECIFICITY: Expressed in the stomach, throughout the small intestine, colon, rectum, thyroid gland, pituitary gland, salivary gland, adrenal gland, testis, ovary, brain, spleen, prostate and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE=22314729; PubMed=12427552;
Soga T., Matsumoto S.-I., Oda T., Saito T., Hiyama H., Takasaki J.,
Kamohara M., Ohishi T., Matsushime H., Furuichi K.;
"Molecular cloning and characterization of prokineticin receptors.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=22050031; PubMed=12054613; Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M., Abe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S., Inatomi N., Ohtaki T., Onda H., Fujino M.; Instomi N., Ohtaki T., Onda H., Fujino M.; Isolation and identification of EG-VEGF/prokineticins as cognate Higands for two orphan G-protein-coupled receptors."; Hiochem. Biophys. Res. Commun. 293:396-402(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                    OSTUTORY OBNEJ7;
10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Prokineticin receptor 1 (PR-R1) (G protein-coupled receptor 73)
                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=22028034; PubMed=11886876;
Lin D.C.-H., Bullock C.M., Ehlert F.J., Chen J.-L., Tian H.,
                                                Length 393;
                                                                                                0; Indels
         CF302DD364D8A2CC CRC64;
                                                  2.3%; Score 9; DB 1;
100.0%; Pred. No. 0.42;
cive 0; Mismatches
                                                                                                                                                                                                                                                                                                    393 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biochim. Biophys. Acta 1579:173-179(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                           (GPR73a) (G protein-coupled receptor ZAQ).
GPR73 OR PKR1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AY089976; AAM11892.1; --
EMBL; AB084080; BAC24021.1; --
EMBL; AF506287; AAM48127.1; --
                44602 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genew; HGNC:4524; GPR73.
                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                       Conservative
                                                                                                                                                                                            NLAISDFLV 111
                                                                                                                                                56 NLAISDFLV 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                  Local Similarity
                    393 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                         9.
                                                                                                                                                                                                                                                                                                             PKR1 HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zhou Q.-Y
                                                                                                                                                                                               103
                    SEQUENCE
                                                              Query Match
                                                                                                            Matches
                                                                                                                                                                                                                                                                                                           L PART REPRESENTATION OF COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCCOS COCOCOS COCCOS COCCOS COCCOS COCCOS COCOS COCOS COCCOS COCCOS COCCOS
                                                                                                                                                       à
                                                                                                                                                                                                 g
```

```
--- FUNCTION: Receptor for prokineticin 1. Exclusively coupled to the G(q) subclass of hereromeric G proteins. Activation leads to mobilization of calcium, stimulation of phosphoinositide turnover
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      parker R., Liu M., Eyre H.J., Copeland N.G., Gilbert D.J., Crawford J., Sutherland G.R., Jenkins N.A., Herzog H.; Sutherland G.R., Jenkins N.A., Herzog H.; "Y-receptor-like genes GPR72 and GPR73: molecular cloning, genomic organisation and assignment to human chromosome 11q21.1 and 2p14 and mouse chromosome 9 and 6... Biochim. Biophys. Acta 1491:369-375(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTRAIN=CS7BL/6;
MEDLINE=CS7DL/6;
MEDLINE=CS202134; PubMed=12024206;
Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J.,
Weaver D.R., Leslie F.M., Zhou Q.-Y.;
Prokineticin 2 transmits the behavioural circadian rhythm of the
suprachiasmatic nucleus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia: Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. . ) (POTENTIAL).
N-LINKED (GLCNAC. . ) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Prokineticin receptor 1 (PK-R1) (G protein-coupled receptor 73)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 393;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
             PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein.
DOMAIN 62
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IS -> MT (IN REF. 3).
0D36461CA99CAEC1 CRC64;
                                                                                                                            1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                            4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                    EXTRACELLULAR (POTENTIAL)
7 (POTENTIAL)
                                                                                                                                                                                                                                                                                                                       5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
6 (POTENTIAL).
                                                                                                                                                                                                                                                    (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-LINKED (GLCNAC.
N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Pred. No. 0.42;
11ve 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  393 AA
                                                                                                                                                                                                                               3 (POTENTIAL)
CYTOPLASMIC (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20225484; PubMed=10760605;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Rel. 42, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44769 MW;
PRINTS; PR00237; GPCRRHODOPSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 417:405-410(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                103 NLAISDFLV 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56 NLAISDFLV 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           393 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10090;
```

.. 0

```
[1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=47731;
                                                                                                                                                                                                                                                                                                                                                                                        180
233
254
258
304
323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPSD_CAMAB
                                                                                                                                                                                                                                                                                                                                      DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rhodopsin.
                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                             FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                   "RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
OPSD_CAMAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Пр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its muse by non-profit institutions as long as its content is in no way entities requires a license agreement is not removed. Usage by and for commercial or send an email to licenseeisb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
         similarity).
SUBCELLULAR LOCATION: Integral membrane protein.
TISSUE SPECIFICITY: Expessed at high levels in the heart, skeletal
muscle and pancreas. Expressed at lower levels in the brain, lung,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-Sprague-Dawley;
MEDLINE=22050031; PubMed=12054613;
Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M., Abe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S.,
                                                          SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
 activation of p44/p42 mitogen-activated protein kinase (By
                                                                                                                                                                                                                                                                                                                                                                                          7 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. . ) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last sequence update)
Prokineticin receptor 1 (PK-R1) (G protein-coupled receptor 73)
(G protein-coupled receptor ZAQ).
                                                                                                                                                                                                      PFEMNY PRODUL; /LM 1, 1.

PRINTS; PROD237; GPCRREDODSN.

PROSITE; PS0262; G-PROTEIN_RECEP_FI_2; 1.

PROSITE; PS50262; G-PROTEIN_RECEP_FI_2; 1.

PROMIN 1 62 EXTRACELLULAR (POTENTIAL).

DOMAIN 63 83 1 (POTENTIAL).

DOMAIN 84 98 CYTOPLASMIC (POTENTIAL).

DOMAIN 84 98 CYTOPLASMIC (POTENTIAL).

TRANSMEM 99 119 2 (POTENTIAL).

TRANSMEM 99 119 2 (POTENTIAL).

TRANSMEM 120 146 EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                    core 9; DB 1; Length 393; Pred. No. 0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                             4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                           EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                 46F5E78C00DC871C CRC64;
                                                                                                                                                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                   5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   393 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 9;
                                                                                                                                                                               MGD; MGI:1928676; Gpr73.
InterPro; IPR000276; GPCR_Rhodpsn.
PFam; PF00001; 7tm_1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                           EMBL; AF236082; AAF43706.1; -.
EMBL; AF487278; AAM49570.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                 Ψ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                 44528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                        343
393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103 NLAISDFLV 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64
                                                                                                                                                                                                                                                                                                                                                                                                            11
137
393 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56 NLAISDFLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI TaxiD=10116;
                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PKR1 RAT
Q8R416;
                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
                                                                                                                                                                                                                                                                                                                                                 FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                         DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 14
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                          TISSUE SPECIFICITY: Widely expressed in peripheral tissues with TISSUE SPECIFICITY: Widely expressed in peripheral tissues with the highest level in the spleen and moderate levels in the adipose tissues, thymus, lung, kidney, testis, uterus and small intestine. SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
Inatomi N., Ohtaki T., Onda H., Fujino M.;
"Isolation and identification of EG-VEGF/prokineticins as cognate
"Isolation and identification of EG-VEGF/prokineticins as cognate
ligands for two orphan G-protein-coupled receptors.";

Blochem. Blophys. Res. Commun. 293:396-402(2002).

-I-FUNCTION: Receptor for prokineticin 1. Exclusively coupled to the
G(q) subclass of heteromeric G proteins. Activation leads to
mobilization of calcium, stimulation of phosphoinositide turnover
and activation of p44/p42 mitogen-activated protein kinase (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bukaryota, Metazoa, Arthropoda, Hexapoda, Insecta, Pterygota, Neoptera, Endopterygota, Hymenoptera, Apocrita, Aculeata, Vespoidea; Formicidae, Formicinae, Camponotus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CYTOPLASMIC (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
S (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL, AY089974; AAM11890.1; -.
InterPro; IPR000276; GPCR_Rhodpsn.
Pfam; PF00001; 7rm 1; 1.
PRINTS; PR00237; GFCRRHODOPSN.
PROSITE; PS00237; G_PROTEIN RECEP_F1 1; 1.
PROSITE; PS50262; G_PROTEIN RECEP_F1 2; 1.
G-protein coupled receptor; Transmembrane; Glycoprotein.
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 393; 0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EXTRACELLULAR (PÔTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Z (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
2 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C75EC72B97E503A8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q17292;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.3%; Scc.
100.0%; Pred. No. v.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 (POTENTIAL)
CYTOPLASMIC (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Camponotus abdominalis (Carpenter ant).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44507 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                103 NLAISDFLV 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                344
11
137
393 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56 NLAISDFLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                              InterPro; IPR00176; GPCR_Rhodpsn.
InterPro; IPR00176; Opsin.
Pfam, PR001017; Ttm 1; 1.
PROSTITE; PR00127; GPCRRHODPSN.
PROSTITE; PR001237; GPCRRHODPSN.
PROSTITE; PS001237; GPROTEIN_RECEP_F1_1; 1.
PROSTITE; PS001237; GPROTEIN_RECEP_F1_2; 1.
PROSTITE; PS001238; OPSIN, TRANSEMEMBRANE; Glycoprotein; Vision; Photoreceptor; Retinal protein; Transmembrane; Glycoprotein; Vision; Photoreceptor; Retinal protein coupled receptor.
Phosphorylation; G-protein coupled receptor.
FXTRACELLULAR (POTENTIAL).
TISSUE=Retina;
MEDINIE=8980419; PubMed=9372150;
MEDINIE=980419; PubMed=9372150;
Popp M.P., Grisshammer R., Hargrave P.A., Smith W.C.;
"Ant opsins: sequences from the Saharan silver ant and the carpenter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
RETINAL CHROMOPHORE (BY SIMILARITY).
N-LINKED (GLCNAC. .) (POTENTIAL).
N-LINKED (GLCNAC. ..) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
3 (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42091 MW; 99C95CB5093BA433 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3 (POTENTIAL).
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; U32502; AAC47083.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1115
1130
1130
1150
1193
2217
2245
2280
3311
3311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      204
323
24
200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    53
78
90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                323
24
200
378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P02699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BINDING
  SOLUTION OF THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATES AND THE STATE
```

Query Match 2.0%; Score 8; DB 1; Length 378; Best Local Similarity 100.0%; Pred. No. 4.3; Matches 8; Conservative 0; Mismatches 0; Indels Conservative 23

0

Gaps

ö

56 NLAISDFL 63 ||||||| 95 NLAISDFL 102

ð

Search completed: October 1, 2004, 10:26:53 Job time : 27 secs

```
TRAINSEMBLEACY
RATE TO C., Wilson S., Kuei C., Lovenberg T.W.;

RA Liu C., Wilson S., Kuei C., Lovenberg T.W.;

Trainsearch of human, mouse, rat, and guinea pig histamine H4 receptor Suggests substantial species variation.";

RI Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.

C. -- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).

C. -- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

DR MGD; MGI:2429635; HTh4.

DR MGD; MG:00005624; C:membrane fraction; IDA.

GO; GO:00005887; C:integral to plasma membrane; IC.

GO; GO:0005624; C:membrane fraction; IDA.

GO; GO:0005624; C:membrane fraction; IDA.

InterPro; IPRO0027; GPCR Rhodosn.

InterPro; IPRO0001; 7tm 1; 1.

DR PRINTS; PRO1237; GFCRHODOPSN.

PRINTS; PRO1237; GFCRHODOPSN.

PRINTS; PRO1237; GFCRHODOPSN.

PRINTS; PRO1237; GFCRHODOPSN.

PRINTS; PRO1237; GFCRHODOPSN.

PRINTS; PRO1237; GFCRHODOPSN.

PRINTS; PRO1237; GFCRHODOPSN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96.9%; Score 379; DB 11; Length 391; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50263; G_PROTEIN_RECEP_F1_2; 1.
PROSITE; PS50263; G_PROTEIN_RECEP_F1_2; Transmembrane.
SEQUENCE 391 AA; 44248 MW; S9EC73CB5214C5E0 CRCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q91ZY2;
01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Histamine H4 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0912Y2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HRH4.
                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0912Y2
                                                                                                                                                                                                                                                                                                                                                                                                                                                               3 cavia porce
homo sapien
sus scrofa
canis famil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               homo sapien
homo sapien
homo sapien
homo sapien
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              091zyl rattus norv
091zy3 cavia porce
0961d9 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     091zy2 mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           084pjl gossypioide
09f130 pseudomonas
09bgj4 homo sapien
                                                                      1, 2004, 10:20:40; Search time 118 Seconds (without alignments) 1045.488 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                macaca mula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     canis famil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                                                                                                                                    1 MSESNSTGILPPAAQVPLAF......WKILCVTKWPALSQNQSVSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8wxz9 |
Q865e1 |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q865e3
Q8ni50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sysy3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8wnv9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QBni49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q8wy00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8wy01
                                                                                                                                                                                                                                                                           1017041
GenCore version 5.1.6 (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                    1017041 seqs, 315518202 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                         summaries
                                                                                                                                                                                           Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q91ZY2
Q91ZY1
Q91ZY3
Q96LD9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q865E1
Q84PJ1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9F130
Q9BQJ4
Q9XSV3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8WNV9
Q865E3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8N150
Q8WY00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q8N149
Q8WY01
                                                                                                                                                                                                                                                                                                                                                            prremBL_25:*
sp_archea:*
sp_bacteria:*
sp_fungi:*
sp_human:*
sp_human:*
sp_invertebrate:*
sp_mammal:*
sp_mammal:*
sp_organelle:*
sp_organelle:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6ZXM80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sp_unclassified:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sp_vertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sp_rvirus:*
sp_bacteriap:*
                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                       Post-processing: Listing first 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sp_plant:*
sp_rodent:*
sp_virus:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sp archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             917
                                                                                                                             US-10-626-445-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Match Length DB
            Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
309
365
373
                                                                                                                                                                                                                                                                                                                                                                SPTREMBL
                                                                          October
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OFIGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10:
112:
112:
113:
114:
116:
                                                                                                                                                                                                                                             0
                                                                                                                         Title:
Perfect score:
                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              379
333
333
333
333
111
111
111
111
88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
                                                                                                                                                                                                                                            Word size :
                                                                                                                                                       Sequence:
                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                             Database
                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       No.
```

mus musco Purcella brucella rhizobiuu streptocca serreptocca serreptocca serreptocca spinacia bordetell bordetell bordetell bordetell bordetell corpta satt xenopus l coryta satt coryta satt senopus l lictyostell shewanell shewanell	Q866b5 cebus apell Q8tdp5 homo sapien Q8tdp6 homo sapien Q8hlv0 mirabilis j Q8yxh9 anabaena sp Q8pxt9 methanosarc
	Q866B5 Q8TDP5 Q8TDP6 Q8TLV0 Q8YXH9 Q8PZT9
119 119 119 119 119 119 119 119 119 119	6 4 1 1 1 7 1 7
181 278 281 281 292 392 314 396 396 396 400 400 426 457 672 672 902 672 1188	72 80 82 93 100
	444444 888888
	rrrrr
11112222222222222222222222222222222222	4 4 4 4 4 4 0 1 2 6 4 2

ALIGNMENTS

Last sequence update) Last annotation update)

Created) PRT;

391 AA

59EC73CB5214C5E0 CRC64;

Euteleostomi;

```
DEPURINCE FROM N.A.

LIU C., Wilson S., Kuei C., Lovenberg T.W.;

Liu C., Wilson S., Kuei C., Lovenberg T.W.;

Liu C., Wilson S., Kuei C., Lovenberg T.W.;

The "Comparison of human, mouse, variation.";

Submitted (MAR-2001) to the EMBL/GenBank/Dbbd databases.

L. SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).

- I- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

EMBL; AR358858; AAK97379-1; --.

EMBL; AR358858; AAK97379-1; --.

RO; GO:0004872; F:receptor activity; IEA.

GO; GO:0004872; F:receptor activity; IEA.

GO; GO:0001884; F:rhodopsin-like receptor activity; IEA.

RO; GO:00071884; F:rhodopsin-like receptor protein signalin. ..; IEA.

InterPro; IPR000276; GPCR Rhodopsin.

InterPro; IPR0010276; Histamine_H4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

NGUYER T., George S.R., Lee D.K., Cheng R., Lynch K.R., O'Dowd B.F.;

"Discovery of H4, a Novel Histamine Receptor.";

"Discovery of H4, a Novel Histamine Receptor.";

Submitted (SEP-2000) to the EMBL/GenBank/DBU databases.

-!- SUBCELLULAR IOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).

-!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

EMBL, AX008280; AAL09297.1;

GO, GO:0004872; F:receptor activity, IEA.

GO, GO:0001884; F:rhodopsin-like receptor activity, IEA.

GO, GO:0001886; P:rhodopsin-like receptor activity, IEA.

GO, GO:0007186; P:d-protein coupled receptor protein signalin. ..; IEA.

InterPro; IPR000276; GPCR_Rhodopsn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                       Histanine H4 receptor.

Cavia porcellus (Guinea pig).

Bukaryota; Metazoa (Guinea pig).

Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.

NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE, PS00237; GPROTEIN RECEP_F1_1; 1.
PROSITE; PSS0262; GPROTEIN RECEP_F1_2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 389 AA; 44511 MW; 51AF32FD6FIC3E4F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                     01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 11;
131 KIVAQMVAVWILAFLVNGPMILASDSWKNSTNT 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89 FWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pred. No. 1.4
tive 0; Mismatches
                                                                                                                                                                           389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01726; HISTAMINEH4R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Histamine receptor H4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q96LD9
                                                                                                                                                                               091ZY3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 4
                                                                                                           RESULT 3
Q91ZY3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          096LD9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DATE OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                               à
          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=Sprague-Dawley;

A Liu C., Wilson S., Kuei C., Lovenberg T.W.;

Liu C., Wilson S., Kuei C., Lovenberg T.W.;

Lomparison of human, mouse, rat, and guinea pig histamine H4 receptor suggests substantial species variation.";

Submitted (MAR-2010) to the EMBL/GenBark/DibJ databases.

SINILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

C. -: SINILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

C. -: SINILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.

CO. GO: 0016021; C:integral to membrane; IEA.

GO; GO: 001584; F:receptor activity; IEA.

RO; GO: 001786; P: C-PROTEIN COUPLED RECEPTORS.

RO; GO: 001786; P: C-PROTEIN COUPLED RECEPTORS.

RO; GO: 001786; P: C-PROTEIN COUPLED RECEPTORS.

RO; GO: 001786; P: C-PROTEIN COUPLED RECEPTORS.

RO; GO: 001786; P: C-PROTEIN COUPLED RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                   DFLVGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAV 120
                                                                                                                                                                                                                                                              SYRAQHTGIMKIVAQMVAVWILAFLVNGPMILASDSWKNSTNTKDCEPGFVTEWYILTIT 180
                                                                              1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS 60
                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RKLARSLAILLSAFAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLOWFNSFVNPFLY
                                                                                                                                                  1 MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVVILAFVVDRNLRHRSNYFFLNLAIS
                                                                                                                                                                                                                                                                                                                                                                                              MILIEFILIPVI SVAYFNVQI YWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PGLKESAASRHSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .,
                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIMIS, PROJUCES, COURT, PRIMINEHAR.
PRINTS; PRO1726; HISTAMINEHAR.
PROSITE; PS00237; G PROTEIN RECEP F1_1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1_2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 391 AA; 44023 MW; C707BA6E39GFED41 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 33; DB 11; Lr
Pred. No. 1.3e-25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            131 KIVAQMVAVWILAFLVNGPMILASDSWKNSTNT 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                391 AA
                         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8.4%; Scc
llarity 100.0%; Pr
Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLCHRRFQKAFWKILCVTK 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PLCHRRFOKAFWKILCVTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat).
                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00001; 7tm 1; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Histamine H4 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 33; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10116;
                         379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                     61
                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q91ZY1
```

g

g 8 임 ò

ð g à

g

g ò

 δ

SOW WENT THE STATE OF THE STATE

ò

ö

Gaps

.; 0

Length 389; Indels

1,4e-24;

```
Mammalia; Butheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR00276; GPCR Rhodpsn.
InterPro; IPR003980; H3_receptor.
                                                                                                    EMBL; AY231165; AA063755.1; -.
                                                                                                                                                                                                                                                                                                                                                  11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                             65
                                                                                                                                                                                                                                                                                                                                                                                              3 LNLAISDFLVG 13
                                                                                                                                                                                                                                                                                                                                                                           55 LNLAISDFLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                          NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                           Receptor.
                                                                                                                                                                                                                                                                    NON TER
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q8N150
Q8N150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HRH3.
                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q8NI50
             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AB053300; BAB83078.1; OF G-PROTRIN COUPLED RECEPTORS.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:001619; F:receptor activity; IEA.

GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.

GO; GO:0001586; P:d-protein coupled receptor protein signalin. .; IEA.

InterPro; IPR000276; GPCR Rhodops.

InterPro; IPR000276; GPCR Rhodops.

Pfam; PF00001; 7tm 1; 1.

PRINTS; PR00237; GPCRRHODOPSN.
                                                                                                                                                                                                                                                                                                                                                                                                                          oda T., Morikawa N., Saito Y., Masuho Y., Matsumoto S., "CDNA cloning and characterization of porcine histamine H4 receptor."; Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELDULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metāzoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HRH3.
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                   .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ..
                                                                                                                    Score 21; DB 4; Length 390;
Pred. No. 5.3e-13;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4.1%; Score 16; DB 6; Length 390; 100.0%; Pred. No. 9.7e-08; tive 0; Mismatches 0; Indels
          PEAM, PP00001, 7tm 1, 1.

PRINTS; PR00237; GPCRRHODDSN.

PRINTS; PR01726; HISTAMINEHAR.

PROSITE; PS00237; G PROTEIN RECEP F1 1, 1.

PROSITE; PS050462; G PROTEIN RECEP F1 2; 1.

G-protein coupled receptor; Receptor; Transmembrane.

SEQUENCE 390 AA; 44469 MW; CC82B5D30D216C66 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BC8FD363A6F44D3F CRC64;
                                                                                                                                                                                                                                                                                01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 390 AA; 44483 MW; BC8FD363A6F44D3F CRC6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-CT-2003 (TrEMBLrel. 24, Last sequence update)
Histamine receptor H3 (Fragment).
                                                                                                             Query Match 5.4%; Score 21; DB Best Local Similarity 100.0%; Pred. No. 5.3 Matches 21; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     147 AA.
                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                   93 TDYLLCTASVYNIVLISYDRY 113
                                                                                                                                                                                        93 TDYLLCTASVXNIVLISYDRY 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
InterPro; IPR008102; Histamine_H4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94 DYLLCTASVYNIVLIS 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96 DYLLCTASVYNIVLIS 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 100.
Les 16; Conservative
                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                        Histamine H4 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                       Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                       Q8WNV9;
                                                                                                                                                                                                                                                           Q8WNV9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q865E3
                                                                                                                                                                                                                                  RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 6
Q865E3
                                                                                                                                                                                                                                              OBWINY9
 DR DR CAN
                                                                                                                                                                   ò
                                                                                                                                                                                         g
```

```
GO: GO: 0016021; C:integral to membrane; IEA.
GO: GO: 0004969; F:histamine receptor activity; IEA.
GO: GO: 0004812; F:receptor activity; IEA.
GO: GO: 0001884; F:rhodopsin-like receptor activity; IEA.
GO: GO: 0001886; F:rhodopsin-like receptor protein signalin. .; IEA.
InterPro; IPR000276; GPCR Rhodopsn.
InterPro; IPR00276; GPCR Rhodopsn.
PRINTS; PR00237; GPCRRHÖDOPSN.
PROSITE; PS00237; GPCRHÖDOPSN.
PROSITE; PS00237; GPROTEIN_RECEP_F1 1; 1.
PROSITE; PS00237; GPROTEIN_RECEP_F1 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Weiner D.M.;
"Molecular Cloning and Characterization of Functionally Distinct
"Molecular Cloning and Characterization of Functionally Distinct
Isoforms of the Human Histamine H3 Receptor.";
RMBL; AF346903; AAM43828.1;

EMBL; AF346903; AAM43828.1;

EMBL; AF346903; Finiteral to membrane; IEA.

GO; GO:0004872; Finiteramine receptor activity; IEA.

GO; GO:0004872; F:receptor activity; IEA.

GO; GO:0001864; F:rhodopsin-like receptor activity; IEA.

GO; GO:000186; F:coptor activity IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein B.S., Nash N.R., Brann M.R.,
Witte D.G., Esbenshade T.A., Hancock A.A., Yao B.B.;
"The canine histamine receptor H3 (HRH3) partial cDNA sequence.";
Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.8%; Score 11; DB 6; Length 147;
100.0%; Pred. No. 0.0074;
ilve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         147 147
147 AA; 16900 MW; 67F6A741B518B54E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200 AA; 21612 MW; 2038D14BC186D1EA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-0CT-2002 (TrEMBLrel. 22, Created)
01-0CT-2002 (TrEMBLrel. 22, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
Histamine H3 receptor isoform 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 2.8%; Score 11; DB 4; Le
Best Local Similarity 100.0%; Pred. No. 0.0097;
Matches 11; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR003980; H3_receptor.
Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GFORRHODOPSN.
PRINTS; PR00471; HISTAMINEH3R.
PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
```

.. 0

;

```
EMBL; AF346904; AAM43829.1; -.
                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                              55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                   74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor.
SEQUENCE
                                                                                                                                                              Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                               Q8WY01;
                                                                                                                                                                                                                                                                                                                                 Q8WY01
                                                                                                                                                                                                                                                                                                                                                                                                           HRH3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
                                                                                                                                                                                                                                                                                                           RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           O8WXZ9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                      g
  à
                                                                                                                                                                                                                                                                TISSUE-Hippocampus,

Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,

Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,

Weller D.M.,

Weller D.M.,

Weller D.M.,

Wolcoular Cloning and Characterization of Functionally Distinct

"Molecular Cloning and Characterization of Functionally Distinct

"Isoforms of the Human Histamine H3 Receptor.",

Isoforms of Ahirl913.1,

EMBL, AF321922, AAI/1913.1,

RO, GO.0004969; F.histamine receptor activity, IEA.

GO, GO.0004894; F.risceptor activity; IEA.

GO, GO.000186; P.:G-protein coupled receptor protein signalin. ..; IEA.

InterPro; IPR003969; H3_receptor.

InterPro; IPR003969; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
MCBI_TaxID=9606;
                                                                                                                                                                                         Homo sapiens (Human).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Weiner D.M.; "Moleoular Cloning and Characterization of Functionally Distinct "Moleoular Cloning and Histamine H3 Receptor."; Isoforms of the Human Histamine H3 Receptor."; Neuropharmacology 0:0-0(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
2.8%; Score 11; DB 4; Length 301;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 AA; 33280 MW; EE740A2E0AB93CC9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                                                                            01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Histamine H3 receptor isoform 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           309 AA.
                                                                                                       301 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                         PEAM; PF00001; 7tm_1; 1.
PRINTS; PR0023; GPCRRHODOSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00237; G PROTEIN_RECEP_F1_1; 1.
PROSITE; PSS0262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Histamine H3 receptor isoform 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74 LNLAISDFLVG 84
                                                                                                           PRELIMINARY;
                       65
                                      1111111111
74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human)
                       55 LNLAISDFLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                             NCBI_TaxiD=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8NI49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q8NI49
                                                                                                                        Q8WY00;
                                                                                                          Q8WY00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 9
                                                                                    RESULT 8
                                                                                              g
                                               g
                         à
```

```
Meiner D.M.;

Weiner D.M.;

Wolecular Cloning and Characterization of Functionally Distinct

RT Fooforms of the Human Histamine H3 Receptor.";

Isoforms of the Human Histamine H3 Receptor.";

Isoforms of the Human Histamine H3 Receptor.";

BNBL; AF32191; AAL71912.1; -

BNBL; AF321911; AAL71912.1; -

BNG; GO:0016021; C:integral to membrane; IEA.

GO; GO:0004872; F:receptor activity; IEA.

GO; GO:0004872; F:receptor activity; IEA.

GO; GO:0007166; Per-Protein coupled receptor activity; IEA.

GO; GO:000716; GPCR Rhodpsn.

InterPro; IPR003980; H3 receptor.

Pfam; PF00001; 7tm 1: 1.

PR RAINTS; PR01471; HISTAMINEH3R.

BNOSITE; PS50262; G_PROTEIN_RECEP_F1_1; 1.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0014969; F:nistamine receptor activity; IEA.
GO; GO:0004969; F:receptor activity; IEA.
GO; GO:0004972; F:receptor activity; IEA.
GO; GO:0001584; F:receptor activity; IEA.
GO; GO:0007186; P:rhodopsin-like receptor activity; IEA.
GO; GO:0007186; P:rhodopsin-like receptor protein signalin. .; IEA.
Interpro; IPR00376; GPR Rhodpsn.
Interpro; IPR00376; GPR Rhodpsn.
Frant; PR00001; 7rm 1; 1.
PRINTS; PR01471; HSTAMINBH3R.
PRNTS; PR01471; HSTAMINBH3R.
PROSITE; PS00237; GPROTEIN_RECEP_FI_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_FI_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.8%; Score 11; DB 4; Length 365; 100.0%; Pred. No. 0.017; o. Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 2.8%; Score 11; DB 4; Length 309
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               365 AA; 40609 MW; D78B32042464CB35 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                     309 AA; 34242 MW; B7496F7D1D2A206B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
Histamine H3 receptor isoform 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          365 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 2.8
Best Local Similarity 100.
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             74 LNLAISDFLVG 84
```

```
445 AA; 48591 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel. 16, C
(TrEMBLrel. 16, L
(TrEMBLrel. 21, L
                                                                                                                    11; Conservative
                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                           55 INLAISDFLVG 65
                                                                                                                                                                  74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pseudomonas alcaligenes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                219 STTSSSAS 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53 STTSSSAS 60
                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Transposase subunit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN=NCIB 9867;
                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=47615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=43263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2002
                                                         Receptor.
                                                                   SEQUÊNCE
                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                        Local
                                                                                                                                                                                                                                          Q84PJ1;
                                                                                                                                                                                                                             Q84PJ1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9F130
                                                                                                                    Matches
                                                                                                                                                                                                        RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
                                                                                                                                                                                                                 Q84PJ1
ID Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9F130
          SKRRRR
                                                                                                                                            ò
                                                                                                                                                                  Dp
                                                                                                                                                                                                                                          ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A PAC
DIT
DIT
DIT
DIT
DIT
DIT
DIT
DIT
DIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H3 Receptor...
Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.
BHBL, AY23164; AA063757.1;
GO: 00016021; C:integral to membrane; IEA.
GO; GO:0004969; F:intstamine receptor activity; IEA.
GO; GO:0004872; F:receptor activity; IEA.
GO; GO:0001584; F:receptor activity; IEA.
GO; GO:0001586; P:receptor activity; IEA.
InterPro; IPR000276; GPCR_Rhodpsn.
InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                             GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0004969; F:histamine receptor activity; IEA.
GO; GO:0004872; F:receptor activity; IEA.
GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. .; IEA.
InterPro; IPR00276; GPCR_Rhodops.
InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yao B.B., Sharma R., Cassar S., Esbenshade T.A., Hancock A.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                           TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.,
                                                                                 Homo sapiens (Human).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                Weiner D.M.;
"Molecular Cloning and Characterization of Functionally Distinct Isoforms of the Human Histamine H3 Receptor.";
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF321933; AAT7914 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Macaca mulatta (Rhesus macaque).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                 2.8%; Score 11; DB 4; Length 373; 100.0%; Pred. No. 0.017; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                        373 AA; 41570 MW; FAE9DFC5C3AF4DE9 CRC64;
                      01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Histamine receptor H3.
     373 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         445 AA
                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                             Histamine H3 receptor isoform 4.
                                                                                                                                                                                                                                                                                                                                              PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Matches 11; Conservative
  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cercopithecinae; Macaca.
NCBL TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                55 LNLAISDFLVG 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74 LNLAISDFLVG 84
                                                                                                                                                                                                                                                                                                                                Pfam; PF00001; 7tm
                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q865E1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q865E1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q865E1
g
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
eurosids II; Malvales; Malvaceae; Malvoideae; Gossypioides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=22569057; PubMed=12679546; Senchina D.S., Alvarez I., Cronn R.C., Liu B., Rong J., Noyes R.D., Paterson A.H., Wing R.A., Wilkins T.A., Wendel J.F.; "Rate variation among nuclear genes and the age of polyploidy in
                                                                                                                                                                                                                                                        ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Feng Y.M., Yeo C.C., Poh C.L.; "Cloning and characterization of gentisate 1,2-dioxygenase from Pseudomonas alcaligenes NCIB 9867."; Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                           core 11; DB 6; Length 445; Pred. No. 0.02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ouery Match
2.0%; Score 8; DB 10; Length 79;
Best Local Similarity 100.0%; Pred. No. 6.1;
Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                         E79440A4EC09CA8C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79 AA; 8010 MW; 03EE726CE662AC24 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Putative root hair defective 3 protein (Fragment).
Gossypioides kirkii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                        2.8%; Scc.
100.0%; Pred. No. v.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     150 AA
PRINTS; PR00237; GPCRRHODDPSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL, AF173167; AAG39456.1; -...
InterPro; IPR002559; Transposase_11.
Pfam; PF01609; Transposase_11; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gossypium.";
Mol. Biol. Evol. 20:633-643(2003).
EMBL; AX117084; AAM78203.1; -.
NON TER
```

ug-10-626-445-8.olig.rspt

```
.
0
                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUB=Amygdala;

MISDINES-INSTATION PROBLEM PROBLEM PROBLEM P., Gassenhuber J., Glassl S., Wiemann S., Wellenreuther R., Gassenhuber J., Glassl S., Ansorge W., Boecher M., Bloecker H., Bauersachs S., Blum H., Lauber J., Duesterhoeft A., Koehrer K., Strack N., Mewes H.W., Otterwaelder B., Obermaier B., Tampe J., Heubner D., Wambutt R., Korn B., Klein M., Poustka A.;

Towards a catalog of Human Genes and Proteins: Sequencing and Analysis of 500 Novel Complete Protein Coding Human cDNAs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .,
                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
2.0%; Score 9; DB 4; Length 181;
Best Local Similarity 100.0%; Pred. No. 13;
Matches 9; Conservative 0; Mismatches 0; Indels
                                                                        Query Match

2.0%; Score 8; DB 2; Length 150;
Best Local Similarity 100.0%; Pred. No. 11;
Matches 8; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Strausberg R.;
Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; All36550; CAB66485.1; -.
EMBL; BC039242; AAH39242.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hypothetical protein.
SEQUENCE 181 AA; 19997 MW; A73A03FD0C3B3FBB CRC64;
150 AA; 17439 MW; 8AAC59D07FD6E83B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          %JON-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-MMR-2003 (TrEMBLrel. 23, Last annotation update)
01-MHPpothetical protein (Brain cell membrane protein 1)
DKFZP761J17121.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                  236 CRTSNPGL 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62 FLVGLISI 69
                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                           7
                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9BQJ4
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
1098074
AC 09807
AC 09807
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DT 01-JUU
DE HYPOT
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR
OC ENKAR

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                        Š
                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                               qq
```

Search completed: October 1, 2004, 10:28:58 Job time: 120 secs

96 FLVGLISI 103

g